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SUMMARY

Nearly a third (235) of the 740 Iowa farmers sampled had net incomes in 1939 under $700 and gross incomes under $3000, while a slightly larger number had net incomes over $1250. The sample was devised to provide an accurate cross section of farmers throughout the state. Low-income farmers were found in all sections of the state, but more were found in the Southern Pasture area. There were slightly more owners than tenants in the lowest income group.

Low-income farmers were older and had smaller households than other farmers. There was a larger proportion of one- and two-member families in the low-income sample.

Low-income farmers do not fall into a single economic or sociological type, differing within the group in several important respects. Thirty-two farmers were almost retired on the farm, 27 had operated farms 5 years or less, 26 were part-time farmers, 17 were single operators, 30 were unclassified, while 103 were classed as commercial farmers, possessing no unique, differentiating economic or sociological characteristics. Nineteen of these were over 60 years old but ran the farm through their sons or hired help.

The farms operated by low-income farmers averaged less than 120 acres in size, although the average for all farmers in the sample was 175 acres. Even with these small farms, a lower proportion was put into cultivated crops and a higher proportion into rotation pasture. Crop yields are smaller on low-income farms, to a considerable extent, because productivity is lower. Land values and rentals are also smaller, but it was not determined whether they were sufficiently lower to take account of the lower productivity.

The livestock enterprise is smaller not only in absolute numbers but also in per acre values. Relatively more of the livestock enterprise is in dairy cattle and in poultry than in beef cattle and hogs. Low-income farmers also have smaller machinery and building inventories, although per acre building inventories are larger.

The major portion of low-income farmers operate capital assets including land valued at less than $20,000. The average debt load for those reporting was 25 percent of assets owned, approximately the same proportion as for higher-income farmers. Low-income farmers are usually willing to borrow to purchase land but not to purchase livestock, machinery, buildings or other farm supplies.

The available labor supply is larger relative to other resources. As a consequence there has been an expansion of some

enterprises requiring more labor and less substitution of machinery and other resources for labor. There appears to be a considerable labor supply on these farms hidden in labor—expensive methods which may be economical if land and capital are fixed, but would not be if large-scale reorganization were possible.

A smaller proportion of low-income farmers follow approved practices, particularly those relating to feeding practices. Very few organize their productive efforts to take advantage of the early markets.

County agents had virtually no contact with these low-income farmers. Most farmers subscribe to one newspaper, several magazines and farm journals and listen to news and agricultural information broadcasts. A smaller proportion receive state and federal bulletins.

Over 50 percent of the income comes from the sale of livestock products—virtually the same proportion as on higher-income farms—but on low-income farms a greater proportion is from livestock products. Crop sales and sealings together are as important as benefit payments; both are 8 percent of the total but are much larger in absolute values on high-income farms.

Not all low-income farmers are attempting to maximize financial returns from resources. Semi-retired and single operators generally have small needs and take part of their returns in increased leisure. Semi-retired farmers have farms averaging only 77 acres, while single operators operate a more extensive enterprise with relatively more receipts from crop sales and beef cattle production.

Other low-income farmers are handicapped in various ways. Some are hindered by serious health problems; others by insufficient capital resources; many by lack of knowledge of good practices and insufficient imagination to reorganize their enterprise for greater returns; and some by too little land, too low productivity or both.

Some farmers have adjusted for the smaller size of the farm by applying more fertilizer, livestock and other resources to the land, and for larger labor supply by substituting labor for capital, but the average low-income farmer has not done very much in this direction.

The Agricultural Adjustment Administration and corn loan programs have increased the spread in income distributions. The programs need to be reorganized so as to subsidize the individual rather than the resource if the income pattern is to be improved in the direction of distributive efficiency.

The Farm Security Administration has done and is doing

much towards helping low-income farmers, but it has not concentrated all its efforts on the Iowa low-income group, since about 10 percent of its clients were in the high-income group. It has a larger proportion of its clients in the younger age groups (under 40 years), a larger proportion as tenants, and a much smaller proportion among the single and semi-retired operators. FSA supervisors may have found younger operators easier to work with, more amenable to suggestions, or more anxious for help and quicker to search out the FSA office, while older operators are less likely to apply even though in serious need of assistance.

FSA clients operated farms somewhat larger in size than those of other low-income operators with less current assets in the Northeastern Dairy and Eastern Livestock Areas and more in the Central Cash Grain and Western Livestock Areas.

In all areas FSA clients operated their farms more efficiently than did the low-income operators. This can be attributed largely to the work of the county supervisors, and it constitutes a very real accomplishment of their objectives. This higher efficiency is illustrated by the high volume of business handled by the FSA clients, relative to their resources, and by the low level of operating expenses. High returns on feeding livestock can be attributed to small-scale livestock enterprise.

Economic Problems of Low-Income Farmers in Iowa[1]

By Lawrence W. Witt

The basic economic and social maladjustments confronting American agriculture during the preceding two decades have stimulated a variety of studies and a variety of programs intended to correct the discrepancies in income. At first they were centered around methods of raising prices to farmers, often by placing a barrier between domestic and foreign prices, under the assumption that such price changes would correct the major portion of the unfavorable income position of the farm economy. As the programs and researches expanded and proliferated there was a growing realization that such broad, industry-wide approaches did very little to change the distribution of income within agriculture and was at least as likely to increase the range as to narrow it.

In consequence an increasing number of special problem groups became the focus for a small coterie of workers; farmers on poor land, in drouth areas, migratory laborers and part-time farmers are a few examples of focal problems. Gradually these separate studies are being integrated into a study of disadvantaged classes of farmers—farmers at the lower end of the income scale. This reorientation promises to have much greater analytical significance since it focuses directly on the problem—low income—and attempts to discover the reasons or series of reasons for their income position, rather than orienting the whole study around one hypothesis.

Recent experiments in statistical techniques and sampling procedure provided a random distribution of Iowa farmers. By selecting all farmers with monetary incomes in the lowest third of the distribution, a sample was obtained which cut across all the low-income groups in Iowa. The present study attempts to gain insight into the individual problems of these

[1] Project 707 of the Iowa Agricultural Experiment Station. The basic data utilized in this study were obtained through the cooperation of the Iowa Agricultural Experiment Station and the Statistical Laboratory, Iowa State College, the Agricultural Marketing Service and the Bureau of Agricultural Economics. The Farm Security Administration provided financial assistance for an additional enumeration of the low-income farmers in the sample. Statistical assistance was provided by the Work Projects Administration, O.P. 65-1-72-2237 and 165-1-72-133. In addition, help and advice was received from Dr. John A. Hopkins, Dr. Walter Wilcox, Dr. T. W. Schultz, Mr. Carl Ortmeyer and Mr. Roger Toussaint, all at Iowa State College. A number of comparisons between low-income farmers and Farm Security clients were made by Mr. Calvin Stillman (39) in association with the author.

operators in obtaining and using human and physical resources efficiently in the production process.

In considering income distribution in agriculture, questions arise on two levels of analysis. First, what kind of a personal income distribution is socially desirable, and to what extent may incomes vary about it; and second, what are the factors limiting the farm in providing the income which society deems desirable? Thus analysis deals directly with various aspects of personal and resource income distribution. This study presents evidence on the actual income distribution among Iowa farmers and provides some indication of the social problems of low-income groups. However, primary emphasis is put on the conditions which prevent a farm from attaining a higher income. The study is essentially exploratory rather than definitive. It attempts to point out the major limiting factors and the major conflicts, and while some answers are indicated, others will remain tentative pending further study.

No attempt has been made to define the specific nature of the economic, social, political or psychological content of a desirable level of living. No matter what general level of living exists in a region or area, there are considerable variations between individuals, and it is the reasons for these differences which are of interest here. Differences between areas depend primarily upon the relationship of population and its skills and abilities to the pattern of resources, and are beyond the scope of this study. Here attention is centered on the allocation of resources and the efficiency of the production techniques of individual farmers within one area who have smaller incomes than other farmers within the same area.

In empirical studies of farm operations it becomes exceedingly difficult to determine the most efficient combination of factors. The dynamics of prices and costs in modern society with its repercussions on expectations is continually shifting the shape and character of the production function while the subtle variations in markets, soil resources, climate, labor and entrepreneurial capacities add to the heterogeneity of the function. Furthermore, returns cannot be measured solely in monetary terms and these non-monetary or psychological values are not uniform, farmer to farmer. Consequently, a considerable part of the study of the operations of low-income farmers is a comparison with the resource relationships of higher-income farmers together with comparisons between groups of low-income farmers.

With this ground work laid, it becomes possible to point out some aspects of various action programs as they relate to modifying the personal income pattern and in supplementing

the limitational factors in farm operations.

This study, then, aims at: (1) Presenting evidence as to the actual income distribution among Iowa farmers in 1939; (2) examining the operational efficiency of farmers in the various income groups; (3) indicating some of the factors limiting an increase in the incomes of low-income farmers stemming from the characteristics of the person or of the resources under his control; (4) pointing out the areas in which the economic and farm management problems of low-income farmers seem to lie; and (5) exploring some of the probable effects of various types of action programs on these farmers.

REVIEW OF LITERATURE

The literature relating to the general field of income distribution and more recently to income distribution in agriculture has become quite extensive, yet there is very little which bears directly on the problem at hand. There are three types of literature which might be reviewed here: 1. The general problem of personal income distribution and the formulation of policy in this area, 2. The popular and semi-popular publications usually pleading for some type of action, 3. The applied statistical and economic studies, written largely by the rural social scientists. Brief mention will be made of the more significant writings in the first two groups so as to indicate the main points of view, while a somewhat fuller discussion of the professional writings will be presented. The references are suggestive rather than exhaustive.

The major portion of economic theory has confined itself to a study of the method in which valuations are placed upon the contribution of resources, human and physical, in the production process. The theoretical framework within which marginal analysis operates to show how income is allocated in accordance with the amount of resources controlled is well developed and has provided useful tools of analysis in studying specific problems of productive efficiency. Not as well developed is a framework of reference within which to study the method by which income is distributed to the different individuals comprising the society, and to study the economic, political, and social effects of particular distributions. The Pareto curve of income distribution (29) deals primarily with the nature of personal income distribution, but the controversy raised around it (30) bears evidence to lack of agreement about the basis for personal income distribution. The ethics of the distribution of income according to the quantities of factors controlled has been the subject of considerable debate. Most economists have confined their efforts to pointing out how the

income is distributed to the individuals owning or controlling the various productive resources, but some, such as J. B. Clark, (6) have gone further and defended this pattern of distribution as ethically right and just; while others, of whom the economist is the least important, have attacked this pattern as shameful and wrong. The analysis presented by Davenport (8), Knight (20) and others, draws a clear distinction between the method by which income is allocated under a certain set of institutional conditions and the ethical evaluation of the corresponding distribution of income.

Lange (21) has recently demonstrated that it is possible to organize a system with rules providing for a rational economic allocation of productive resources which is compatible with separate and distinct rules providing for allocating the distributive product. He examined the manner in which economic decisions might be made in a collective state and showed clearly that it is possible to divorce the income to a man as an individual from that accruing to him as a factor or owner of a factor of production. However, the problems of incentives, financial or otherwise, as well as the political and social problems of democracy and stability, are left unsolved.

In turning more specifically to income distribution in agriculture, a whole host of books and pamphlets containing sordid descriptions and excellent photographs present themselves. A large category refer to conditions among Southern sharecroppers and wage hands and concentrate upon the regional rather than the individual problem.[2] Many of them contain rather questionable economic analyses. Ostrolenk (28) and McMillan (23) look at agriculture as a whole and advocate substantial migration from farm to city, so as to reduce the farm population and the size of the farm plant. To this McMillan adds measures designed to expand markets for agricultural products

[2] Caldwell (5) claims that the semi-feudal system of sharecropping is perpetuated by grasping landlords, political officials and the desire among the poor whites to maintain white supremacy while the land itself is getting poorer and incomes smaller. Eddy (11) describes the Delta Cooperative Farm in Hillhouse, Miss., and infers that wider development of cooperative farming will improve incomes, build a more efficient agriculture and produce healthier farm families. Steinbeck's novel (38) is concerned with migrant families from the Western Cotton Belt and puts the onus on technological developments as the cause of migration and on selfish farmer interests in California for the difficulties there. Kester (19) describes the Southern Tenant Farmers' Union and believes that widespread sharecropper organization into unions will lead to substantial gains, while in the long run, a reorganization in southern agriculture is needed, with a wholesale reorganization of people, diversification of agriculture, cooperation and adequate education. Raper (31), Johnson (17) (the latter a condensation of Odum's book) and others point to increasing soil depletion and erosion as the primary cause of the poverty of the South. Development of policy is not simple and must contain provision for improving the white and negro together; either alone is hopeless. A rejuvenation of the plantation system, almost inevitably through mechanization, will force mass migration and no improvement for those remaining, while a breakdown of the system would develop independent renters and small owners almost as poor as croppers, who would become (if not already) an American peasantry. Prevention of both of these involves large-scale, broad and imaginative action.

through developing new industrial uses. He also suggests more corporation farming because he believes it would be more efficient and could operate profitably at lower prices.

A different point of view is that presented by Barsodi (3), Ligutti (22), to a considerable extent by O. E. Baker (3) and many others. They plead for more agricultural self-sufficiency, more production at home and less dependence on the commercial market, tied in with a fuller development of a rural culture. Usually these writers consider the city an evil place and believe that only in the country is it possible to develop a moral, healthful and enlightened people. Through the techniques described they hope to keep a larger proportion of boys and girls on the farm since only there may a truly great civilization be established.

These writings show the manifold interest in rural poverty and the variety of the measures offered for its alleviation. The greater part of the writings on southern agriculture are concerned with the over-all problems rather than the individual problems, under the assumption, apparently, that the social and economic institutions and the sheer immensity of the task render individual action inadequate, or at best only available to a few individuals.

In turning to the professional literature, a movement from general to specific problems may be noted while recent increases in general studies of national agricultural poverty again serve to reorient workers to the whole field (12, 40). In the early 1920's the whole agricultural industry was studied with various recommendations for improvement of its depressed status, most of which were designed to increase agricultural (domestic) prices through government action. Before long, a number of cross currents developed which led to an increasing consideration of the individual income distribution within agriculture. Notable among these are the studies of submarginal farming areas (9, 42) in which the emphasis was on the resources, land in particular, and, to a lesser extent, on the individual. A whole area or major portion of an area was treated as submarginal, that is, unable to provide an acceptable level of income to most farmers in the area. The remedy was fairly clear, but the techniques for developing forced migration consistent with the basic laissez faire policies of the time were difficult to formulate.

The added impact of the business depression to the already serious farm problems diverted attention once more to the problems of the entire agricultural industry, yet, even so, submarginal land was part of the picture, and other subgroups became differentiated. One aspect may be considered a broadening of the earlier land studies to include not only self-sufficient

farmers of the Ozarks, Appalachians and northern cut-over lands but also drouth areas and regions suffering because of severe economic pressure upon their principal products. Another group which has received considerable attention is part-time farmers,[3] receiving much of its impetus from the interest in decentralization of industry and from the ideas represented by the early Resettlement Administration. Not all part-time farmers are low-income farmers since many are urban workers living in the country on a small acreage, while others have retired to a farm from urban work, but some are farmers finding it necessary or desirable to spend part of their time at other work to increase their earnings.

One of the more spectacular of the subgroups—a group well down the income scale—is the migratory laborers of the South and West as well as many of the somewhat more stable agricultural laborers (2, 26). They have generally not been included in the workings of social security legislation, wages and hours rules and similar laws. A number of things have been done for these groups, mostly through the Farm Security Administration, such as the provision of cheap and sanitary campsites and moveable camps, but as yet there has been relatively little study of this group.

The group, which is of primary interest in this study, is those farmers in any region or area who receive substantially smaller incomes than most of their neighbors.[4] At one time they were dismissed casually as lazy, shiftless and incompetent individuals who would not do well at any occupation (27, 44). This group now presumably forms a considerable portion of the clientele of the Farm Security Administration (37, 43). Out of the work of the Farm Security Administration have come a number of studies designed to evaluate the progress made by clients and to test the validity of the hypothesis under which the organization has operated (1, 13). These studies indicate that considerable progress has been made by the clients, but they generally fail to separate the improvement due to cyclical changes in prices, costs or climate and that due to more efficient farming. Secondly, they include only Farm Security Administration clients, thus tacitly inferring that these clients are all low-income farmers and that generalizations true for these farmers are true for all low-income farmers. Finally, they tend to foster an evaluation of the Farm Security Administration program solely in monetary terms—a maximum economic gain to the clients with a minimum expense to society—

[3] Salter and Diehl (33) provide a bibliography of part-time farming studies and review their weaknesses.

[4] Many other farm-management studies have been interested in this group but have tried to help them by determining what the best farmers have been doing rather than by studying low-income farmers directly.

whereas an important and even major result may be better mental and physical health of the participants (24).

Various types of farm business records have been summarized (4, 14). In many of them high- and low-income groups have been separated and compared, and provide some indications of the critical factors affecting income in a particular year. In most farm business associations a much larger proportion of high-income farmers is included and relatively few, if any, of the low-income group. Thus, in Iowa the average size of record keepers' farms in 1940 was 238 acres, and very few farms are included with less than 100 acres, while the state average, according to the census, was 160 acres. To give these studies greater usefulness, a more adequate representation of small farms is needed.

Considerable progress has been made toward focusing on the sectional and individual income problems and not alone the problems of the agricultural industry. As yet there is often considerable confusion of the individual and regional problems,[5] in spite of the differences in the research techniques applicable to the two problems, while the possible action programs which may be developed for bettering the income status of low-income farmers are almost certain to be different.

SOURCES OF THE DATA

As part of a study on the efficiency of the survey method in obtaining agro-economic facts, schedules were collected from 782 farmers, which provided information on production, inventories, incomes and expenditures for the year 1939. These farms were selected by assigning to each county a number of quarter-sections proportional to its agricultural area and selecting the quarter-sections within the county by means of random numbers (16). All the farmers living on this quarter-section were then enumerated. This procedure provided a usable sample of 740 farms scattered at random over the state and free from any bias of selection. Out of these 740 farms, a group of 235 farmers receiving low incomes[6] in 1939 were selected for further study. An additional schedule, taken from nearly all of the latter group, provided information relating to family size and characteristics, tenure history, credit needs and soil conservation problems.[7]

[5] As for example, in the discussion following the paper by Johnson and Rush (18).

[6] The basis for classification is described on page 218.

[7] One of the purposes of the original survey of 782 farmers was to test the extent to which reliable information on production, expenditures and income could be obtained by the survey method. In setting up the schedule, a number of cross checks were incorporated to increase accuracy, especially in reconciling opening and closing inventories with purchases and sales. Study of the survey results by Jessen indicated varying amounts of memory biases, especially in regard to receipts. Another study of variation by Hopkins, comparing farmers' memories with farm business records, indicates understatement of 15 or 20 percent but with considerable variation between items.

Also available are the results of two reports of FSA farmers, one sample including 1045 Iowa clients and the other 2147. A number of comparisons have been made here which are taken from another study analyzing both sets of data (39).

ORGANIZATION OF DATA INTO INCOME GROUPS

In setting up the analysis, three and subsequently four income groups were used. The 740 farms were separated on the basis of net income to the operator during 1939, thus including as income, inventory increases, home produced and used products, non-farm income and rent on owner-operated farms.[8] The criterion for the highest-income group (Class A) was a net income of $1250 or more, for the middle-income group (Class B) $700 to $1250 net income, while the lowest-income group had net incomes of less than $700. In studying the lowest-income group more closely it was evident that a number of farms were included in which the operator probably received considerably higher incomes in other years. Several had gross incomes of $15,000 or more. In order to treat these farmers separately, all farmers with gross incomes of $3000 or more (not including new building and equipment purchases)[9] were put into a separate group (Class C). As a result, the low-income farmer in this study (Class D) is defined as one receiving a net income under $700 and a gross income under $3000.[10]

It must be emphasized that no significance should be attached to the specific income figures used to separate the groups. By using them the farmers were separated into convenient groups for analysis. If the constituents of a socially desirable standard were defined and accepted[11] it could have been used instead, but the present definition on the basis of money income will serve for this exploratory study.

It is not intended that the use of money income as a basis for classification should separate farmers into good, bad or indifferent groups. All it means is that in 1939 the share of society's goods allocated to them for their productive efforts was small. It may be that much larger incomes were obtained in

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[8] No attempts were made to make owners and tenants comparable by adjusting for the equity of owners, since the interest of this study is in the total income available to the operators of these farms from any and all sources. Furthermore, considerable memory bias and outright refusal to report was encountered for some of these overhead expenses.

[9] In the sample survey assembly sheets, the value of new machinery and improvements was included as a credit, and payments for them as a debit.

[10] In the sections which follow, reference to these income groups by letter will be made from time to time.

[11] Even if a standard were defined it would be difficult to translate it into monetary terms. An article by R. Schickele (34) includes an example of what a socially desirable standard might include.

1938 or 1940.[12] The next step is to discover the reasons for these differences in incomes in 1939 and only when and if definite inferiorities in management are shown to exist may low-income farmers be called less efficient farmers.

Persons familiar with Cotton Belt or even southern Iowa agriculture may object to an income as high as $700 being considered low income. Among national problems the problems of low-income farmers in Iowa may be of slight importance as compared with the much lower incomes in other regions, but in considering the problem of individual disparities in incomes within an area insight may be obtained. These individual problems must not be lost sight of in considering the area or regional problems.

INCOME STATUS AND FAMILY CHARACTERISTICS OF LOW-INCOME FARMERS

Before proceeding with the analysis of the economic organization of low-income farms and comparisons with other farms, a short description of the general character of these farms and farmers is desirable, so as to provide a background within which to view the operations of the farm.

INCOME DISTRIBUTION

The net incomes in 1939 of the 740 farmers for whom assembly sheets of incomes and expenditures could be compiled ranged from $—2224 to $6789, while gross incomes of the farm ranged from $137 to $23,000. There were 47 farmers with negative net incomes, 17 of whom had losses of over $200; 34 percent of the farmers had net incomes of $1250 or more, and 63 percent of $700 or over. There were 5 percent with net incomes under $700 but gross incomes over $3000, thus leaving 32 percent or 235 farmers with net incomes under $700, and gross incomes under $3000. Table 1 shows a more detailed frequency distribution.

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[12] Reports on the farm business in 1938 are available for half the farms, but the schedules were less complete and cannot provide net income figures. However, sales, but not inventory changes, of cattle and hogs in 1938 were compared with 1939 for Classes C and D and show larger changes, both up and down for Class C farmers, thus suggesting much greater fluctuation in their enterprises. The state averages are given below; similar differences are shown by area analysis.

	Cattle	Swine
Average increase of those increasing sales	$	$
Class C	964	765
Class D	138	249
Average decrease of those decreasing sales		
Class C	861	584
Class D	273	274

TENURE

In table 2, part-owners were combined with owners, and managers with tenants. The tenure distribution by income groups shows a slightly larger proportion of tenants in Class B and a slightly larger proportion of owners in Classes A and C. Class D is almost the same as the general distribution. The sharpest difference is the much smaller percentage of owners among Farm Security clients. Tenants, however, are more likely to apply to the FSA for assistance than are owners.

For farmers within the Class D group, the amount of tenure progression or retrogression is available. Out of 180 reporting, 126 reported no change in tenure status during the period they

TABLE 1. COMPARISON OF FREQUENCY-DISTRIBUTIONS OF NET OPERATOR INCOME AND NET OPERATOR CASH INCOME FOR 1939. SAMPLE SURVEY OPERATORS AND FSA FARM BUSINESS RECORD SAMPLE CLIENTS.*

Cumulative percentages of numbers of operators

Income-group	Net income		Net cash income	
	Sample survey operators	FSA clients	Sample survey operators	FSA clients
–800 or less	.5	0.0	5.7	4.6
–400– –799	1.3	0.0	10.4	12.4
0– –399	5.7	1.9	23.7	31.8
0– 399	20.7	24.6	45.5	76.9
400– 799	43.1	64.5	65.1	96.2
800– 1199	64.3	88.2	81.0	99.5
1200– 1599	78.1	96.4	87.4	99.9
1600– 1999	86.1	98.8	91.9	100.0
2000– 2399	91.3	99.8	94.9	100.0
2400– 2799	93.5	99.8	95.9	100.0
2800– 3199	95.5	99.8	96.6	100.0
3200– 3599	96.6	100.0	97.7	100.0
3600– 3999	97.7	100.0	98.5	100.0
4000– and over	100.0	100.0	100.0	100.0

* FSA comparisons from Stillman's theses (39).

TABLE 2. PERCENTAGE TENURE AND INCOME DISTRIBUTION OF IOWA SAMPLE SURVEY FARMERS, 1939.

Tenure	Class A percent	Class B percent	Class C percent	Class D percent	All percent	FSA random sample* percent
Owners	53	41	59	49	48	13
Tenants	47	59	41	51	52	87
Total number	247	209	49	235	740	2147

* FSA comparisons from Stillman's thesis (39).

have operated a farm, 85 reported a progression in status, only 5 reported a retrogression, and 14 reported the present status as intermediate among previous tenure positions. Thirteen farmers out of 180, or 7 percent, reported losing their farms through foreclosure since 1928.

AGE AND SIZE OF FAMILY

Neither the age of the operator nor the size of family is available for farmers in the upper-income groups—that is, Classes A, B and C. However, the April, 1941, schedule of the Farm Employment Survey[13] obtained this information for a sample of 4000 Iowa farms distributed at random and provides some basis for comparison with low-income farmers. Summaries of the distribution of operators by age groups is shown in table 3. More low-income farmers fall in the lower- and the upper-age groups and fewer in the middle-age groups, while the Farm Security Administration has a larger proportion of clients in the lower-age groups. The Farm Security Administration assists a higher percentage of young men and tenants, partially at least because they apply for help, than that in the general distribution of the farm population.

The FSA averages 4.2 persons per household as compared to 4.1 for the Farm Employment Survey; however, households in low-income farms in the sample survey averaged only 3.6 persons.

TABLE 3. COMPARISON OF FREQUENCY-DISTRIBUTIONS OF AGE OF OPERATOR: FARM EMPLOYMENT SURVEY OPERATORS. SAMPLE SURVEY LOW-INCOME OPERATORS, FSA RANDOM SAMPLE CLIENTS.

Age in years	Percentages of total numbers of operators		
	Farm employment survey operators	Sample survey low-income operaotrs	FSA random sample clients*
Under 20	.3	2.6	0.5
20-29.9	9.7	13.6	27.0
30-39.9	24.1	14.4	27.5
40-49.9	25.9	23.2	26.0
50-59.9	22.5	20.9	13.8
60 and over	17.5	25.3	5.2
Total	100.0	100.0	100.0

* FSA comparisons from Stillman's thesis (39).

[13] Data were made available by the Agricultural Marketing Service through Emil Jebe.

TYPES OF FARMERS

Examination of the schedules relating to the low-income farmers showed that a number of groups could be separated out which would have analytical importance in comparisons between various groups of low-income farmers. For many items the differences are unimportant, but in some cases they are of considerable size and importance. These differences will be brought out from time to time as the discussion proceeds. Data on which this classification is based are not available for higher-income groups so as to permit comparisons of the number in each type. The importance of these groups is not that farmers having these characteristics are necessarily low-income farmers but rather that having these characteristics, various external influences, such as action programs attempting to modify the income distribution, have different effects on different groups. Several points of attack must be used if programs are to encompass all groups. The groups and criteria for their identification are set forth below; the number in each group is given in table 4.

Semi-retired farmers—farmers over 60 years of age, using less than 3 months of hired labor and with no grown male relative working at home. Farmers over 60 were included here even if they were part-time or single operators also.

Part-time farmers—farmers working 30 days or more off the farm at either rural or urban occupations but not including exchange labor.

New farmers—farmers who have begun farming as operators since 1934 but who may have spent considerable time as hired hands or in non-farm occupations previously.

Single operators—men and women who have not married or have lost or been separated from their spouse. However, if

TABLE 4. TYPE OF FARMER AND TENURE STATUS OF IOWA LOW-INCOME FARMERS. IOWA SAMPLE SURVEY FARMERS, 1939.

Tenure status	Number of farmers						
	Semi-retired	Single operat-ors	Part-time	New farmers	Com-mercial farmer	Not classi-fied	Total
Owners and part owners	27	13	12	3	51	14	120
Tenants	5	4	14	24	52	16	115
Total	32	17	26	27	103	30	235
Percent dist.	13.6	7.2	11.1	11.5	43.8	12.8	100.0

some relative of the operator lived on the farm and performed equivalent functions in the operation of the farm, the family was not included in this category, as would be true of a brother-sister relationship.

Commercial farmers—farmers with no outstanding sociological or organizational characteristics and who, in these respects, represent the typical commercial farmer.

Several other groups were separated but were combined with the above groups since they were too small for separate analysis. There were a few exceedingly specialized farms such as intensive truck farms or fox farms. A few farmers had definite physical or health handicaps affecting themselves or their immediate family.

Not classified—includes those farmers not visited in the second enumeration and who could not be separated into the above classification.

INCOMES AND EXPENDITURES OF VARIOUS INCOME GROUPS

With the over-all pattern of family characteristics developed, consideration must next be given to the source and distribution of the gross receipts of the farm operators, after which the amount and composition of the physical and human resources available may be studied. In this section attention will be directed toward presenting the major differences between groups, especially in regard to the proportioning and substitution of the factors of production, and in a later section these differences will be related to the available resources in evaluating the operational efficiency of these entrepreneurs.

SOURCES OF INCOME

AGRICULTURAL PRODUCTS

Table 5 shows the proportional distribution of receipts of each income group, and thus makes possible comparisons of the proportioning of the enterprise. Sales of livestock products are proportionately larger on low-income farms, showing an increased emphasis on dairy cattle and poultry at the expense of beef cattle and hogs and an attempt to utilize labor more fully. In neither case is the aggregate income from these items as large as for higher-income farmers, but the differences are reduced in the case of livestock products. Crop sales, excluding crop-share rents, bulk slightly larger on low-income farms, but crop sealings and resealings are much higher on higher-income farms. If these three items are combined, the percentage of income from crops is much larger for Class A farmers and nearly the same for Classes B, C and D farmers.

TABLE 5. SOURCES OF INCOME OF IOWA FARM OPERATORS AS A PERCENTAGE OF TOTAL RECEIPTS, BY INCOME GROUPS. IOWA SAMPLE SURVEY FARMERS, 1939.

	Class A percent	Class B percent	Class C percent	Class D percent	All classes percent
Livestock sold	41.6	37.9	50.9	36.0	40.7
Livestock products sold	9.2	12.5	6.6	14.3	10.5
Crop sales	4.9	3.8	4.6	5.4	4.7
Sealing and resealings	8.6	4.1	4.5	2.4	6.4
Off-farm work	1.6	2.9	1.6	2.2	2.0
Benefit payments	6.6	6.7	6.0	8.4	6.8
Other income	1.8	1.7	1.0	1.7	1.6
Home used products	2.7	4.4	2.9	6.6	3.7
Livestock inventory increase	8.7	11.8	9.3	10.4	9.7
Crops inventory increase	6.0	6.7	3.3	4.8	5.8
Machinery and equipment inventory increase	5.3	6.3	8.2	6.2	5.9
Building and improvement inventory increase	3.0	1.2	1.1	1.6	2.2
Total	100.0	100.0	100.0	100.0	100.0
Total receipts	$5363	$2697	$4843	$1436	$3329

Low-Income Groups

	Single operators percent	Semi-retired percent	Part-time percent	New farmers percent	Commercial farmers percent
Livestock sold	38.9	30.7	26.5	27.8	38.6
Livestock products sold	10.3	20.2	9.5	11.6	16.0
Crop sales	8.0	3.5	2.2	6.5	7.3
Sealings and resealings	----	1.3	3.0	3.3	1.9
Off-farm work	0.3	1.5	17.0	1.0	0.6
Benefit payments	10.5	9.5	4.9	9.8	8.7
Total receipts	$1007	$1143	$1233	$1396	$1624

Within the low-income group, semi-retired farmers and commercial farmers have emphasized dairy cattle and chickens somewhat more heavily, but in spite of their larger livestock enterprise, commercial farmers also had larger crop sales than did other low-income groups. Their larger acreage somewhat reduces the per acre difference in size of the livestock enterprise, but unless 1939 was an unusually favorable crop year for low-income farmers, which does not appear to be the case, it is evident that an increased livestock enterprise to utilize these feeds would improve their position. Perhaps need for immediate cash at harvest time forces sale of part of the crop even though most profitable operations would call for borrowing to purchase livestock to utilize this feed and the relatively larger labor supply of low-income operators.

BENEFIT PAYMENTS

Fewer low-income farmers participate in the AAA program than in other income groups; 72 percent in Class D participated, compared with 91 and 85 percent for Classes A and B, respectively.

Even with reduced participation, benefit payments are a slightly larger proportion of receipts of low-income farmers than of middle- or high-income farmers. However, the difference in actual payments is striking, ranging from $127 for low-income operators to $355 for high-income operators, nearly three times as much. The difference is somewhat reduced if the average for farmers participating is used, payments ranging from $177 for low-income to $390 for high-income operators.[14] The difference in payments between income groups arises primarily from the difference in acreage, but part of the explanation probably lies in the relatively larger crop and corn acreage and in higher corn yields and allotments on high-income farms.

If crop sealings and resealings are added to benefit payments, the effect is definitely to increase the disparity in incomes between the high- and low-income operators. In 1939, 15.2 percent of the income of Class A farmers' income came from these two sources while only 10.6 percent of that for Class D farmers came from the same sources. Payments in both cases have been made in accordance with the quantity of resources controlled,[15] which, of course, is also the basis by which income from sales of product is allocated by the economic system.

Among low-income farmers government payments are more important to single farmers since they are nearly all owner operators, operate moderately large farms and receive all the payments instead of sharing them, and to new farmers who are largely renters but who operate larger acreages and participate more fully, while payments are smallest for part-time farmers.

HOME USED PRODUCTS

Home-used products including only meat, poultry and dairy products represent a considerably larger proportion of re-

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[14] The payments to the farm instead of to the operator are $474 on Class A farms and $213 on Class D farms.

[15] It may be and has been argued that the AAA is primarily an adjustment rather than a relief program. Be that as it may, one reason for its continuous political strength is the belief by other groups that it has salutary effects upon the general income distribution.

The effectiveness of the AAA in shifting income to agriculture from other industries is another problem.

ceipts for low-income farmers than for all farmers—6.6 percent compared to 3.7 percent as shown in table 5. Inclusion of home-produced and used fruits and vegetables would increase the percentages and maintain the differences.[16] In terms of actual values, high-income farmers used more home-produced meats and livestock products, $146 contrasted with $99 for low-income farms. Several explanations for this difference may be suggested: 1. On an average, low-income families are older and smaller, thus requiring less milk for children and less food generally. 2. There is more pressure on some of these families to sell their products, and as a result they reduce family consumption. Whether they have a less nutritious diet as a consequence is not known.

OTHER INCOME

Low-income farmers receive a greater proportion of their income from various kinds of work off the farm than do higher-income farmers. Within the low-income group, off-farm labor is important only for part-time farmers.

Other sources of income—pensions, gifts and land rented out—were nearly the same for all groups.

The final item on the income side is inventory increase.[17] Proportionally, there is little difference in the total inventory increase, but more of the increase for low-income farmers is in livestock and machinery than in crops and improvement to buildings. In actual value, of course, the increase was much larger for higher-income groups.

AVERAGE EXPENDITURES

Expenditures of low-income farmers were a larger proportion of gross income than for higher-income farmers. Approximately 60 percent of the total business credits were paid out for farm expenses in the two higher-income groups, while the percentage was 80 percent among low-income operators. If each item of expenditure is shown as a percentage of total expenditures, as in table 6, there is relatively little difference between income groups. Low-income farmers spend proportion-

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[16] A survey of 111 sample survey farms not yet published by Margaret Tiffany shows these same relationships. Fruits would reduce the differences between income groups while vegetables would increase them. Low-income farmers used much less fruit but only somewhat less vegetables.

[17] Inventory increase was calculated by taking the actual physical change times Dec. 15 prices. Farm price levels changed little during 1939, hence it was assumed that the remainder did not change in value.

ately less on hired labor, tractors and purchase of livestock, new machinery and new improvements. They spend proportionately more on machine hire, truck expense, automobile expense, all cash operating expenses and all cash fixed expenses. They also had larger inventory decreases of crops and especially for improvements. Other items varied only a few tenths of a percentage point.

The most interesting contrast shown in table 6 is the proportionally small and absolutely even smaller investments being made by low-income farmers. Livestock purchases are less than 10 percent of the total expenditures on low-income farms while averaging over 15 percent for all farmers. The differences on crops purchased and new machinery and improvements are less but also in the direction of smaller investments, while inventories have decreased slightly more for low-income, and decreases are not shown, but high-income farmers increased the value of their assets by $782, while low-income farmers increased the value by only $99.

TABLE 6. OPERATOR EXPENDITURES AS A PERCENT OF TOTAL OPERATOR DEBITS, BY INCOME GROUPS. IOWA SAMPLE SURVEY FARMERS, 1939.

Item	Class A	Class B	Class C	Class D	All classes
Hired labor	6.8	4.7	5.7	4.0	5.7
Commercial feeds	3.9	5.0	4.4	4.0	4.2
Limestone and fertilizer	.2	.2	.07	.13	.2
Seeds	2.3	2.5	2.2	2.3	2.3
Supplies	.5	.6	.4	1.0	.6
Machine hire	2.1	2.9	1.7	2.9	2.4
Miscellaneous	2.5	3.0	1.8	3.2	2.6
Machinery repair	1.2	1.3	1.1	1.1	1.2
Building repair	1.9	1.4	1.4	1.5	1.6
Tractor expense	6.5	6.4	6.6	5.7	6.4
Truck and auto expense	4.6	6.5	4.5	8.6	5.7
Cash operating expense	32.5	34.5	29.9	34.4	32.9
Fixed expense	15.8	17.8	15.1	20.6	17.0
Livestock purchases	17.7	13.3	20.9	9.8	15.7
Crop purchases	5.5	6.1	8.4	5.4	6.0
New equipment and improvement purchases	14.1	11.6	9.8	9.8	12.3
Total purchases	37.3	31.0	39.1	25.0	34.0
Livestock inventory decrease	4.7	4.0	3.0	3.6	4.1
Crop inventory decrease	2.8	5.0	8.0	7.7	4.8
Machinery inventory decrease	4.0	4.9	3.1	4.3	4.2
Building inventory decrease	2.9	2.8	1.8	4.4	3.0
Total inventory decrease	14.4	16.7	15.9	20.0	16.1
Total	100.0	100.0	100.0	100.0	100.0
Total debits	$3144	$1739	$4669	$1133	$2210
Total debits as a percent of operator credits	58.6	64.5	95.7	80.2	66.4
Net operator income	41.4	35.5	4.3	19.8	33.6
Total operator credits	100.0	100.0	100.00	100.0	100.0

CHARACTERISTICS OF LAND OPERATED BY IOWA FARMERS AT VARIOUS INCOME LEVELS

In turning now to the detailed composition of the talents and resources at the disposal of low-income farmers, it is convenient to separate them into the four categories of land, capital, labor and entrepreneurship and compare the quantities and qualities available to each income group. In attempting to determine the way in which grades and quantities of land were distributed, various measurements of acreage and quality were separated by net-income groups. As will be shown directly, the quantity differences are much more important than the quality differences.

FARM ACREAGE OPERATED

Farmers with low incomes, Class D, operated an average of 117 acres of land, while farmers with incomes over $1250, Class A, operated 230 acres, and farmers in Classes B and C, 162 and 240 acres, respectively.[18] The differences between income groups in each area are of the same kind and about the same order of magnitude, and in all cases were highly significant differences. To bring the differences into sharper focus, the frequency distribution shown in table 7 was set up. Notice the wide differences in acreage between farms within an income group but, nevertheless, the heavy concentration of low-income farmers in the lower acreages. Of the farms of less than 100 acres, 63 percent are farmed by low-income operators, or mak-

TABLE 7. DISTRIBUTION OF TOTAL ACRES IN FARM BY INCOME GROUPS. IOWA SAMPLE FARMERS, 1939.

Total acres in farm	Number of farms					
	Class A	Class B	Class C	Class D	All classes	Percent Class D of total
0- 19	1	--	--	17	18	94
20- 59	--	11	--	24	35	69
60- 99	10	33	--	53	96	55
100-139	34	42	5	69	150	46
140-199	74	68	17	42	201	21
200-259	54	36	14	20	124	18
260-319	29	6	3	5	43	12
320 and over	45	13	10	5	73	7
Total	247	209	49	235	740	32

[18] If Classes C and D were combined, thus including all farms with less than $700 net income, the average would have been 138 acres.

ing a within-group comparison, nearly 69 percent of the low-income farmers operate farms less than 140 acres in size, while 63 percent of the other three groups operate farms of 140 acres or more. Even more striking is the fact that 82 percent of the highest-income group are on these larger farms.

Conceivably, part of these differences in size could be counteracted if low-income operators had a larger proportion of their farms in cropland or farmed more intensively. Actually, as shown later, a smaller proportion is cropped and cropped less intensively so that the effective size is even further reduced.

QUALITY OF LAND

It is possible to compare and describe the quality of the land operated by farmers in the various income groups by a number of different criteria, each of them subject to weaknesses of one sort or another. The evidence available from each of these sources alone is not clear and unmistakable, and requires untangling and interpretation. Suggestions may be obtained by examining the land-use pattern, yields of crop, land values or rental rates, or comparing AAA productivity ratings.

One of the chief differences in land use between income groups is the smaller proportion of acres cropped on low-income farms (table 8). Low-income farmers have 59 percent of their land in crops compared with 68 percent for all farms and 72

TABLE 8. ACRES IN FARM AND CROPPING PLAN, BY INCOME AND TENURE GROUPS. IOWA SAMPLE SURVEY FARMERS, 1939.

Income groups	Total acres	Acres in corn grain %	Acres in other grains %	Acres in hay %	Acres in in other crops %	Acres rotation pasture %	Crop acres %	Permanent pasture & waste %
Owners								
Class A	231	26	19	11	3	10	70	30
B	147	22	17	14	2	7	64	36
C	261	28	20	9	3	10	72	28
D	106	20	13	13	2	7	57	43
All	170	24	17	12	2	9	66	34
Tenants								
Class A	229	30	22	10	3	8	75	25
B	172	26	20	12	3	6	69	31
C	225	27	23	8	4	8	72	28
D	128	23	17	11	3	6	61	39
All	180	27	21	11	3	7	70	30
Total								
Class A	230	28	21	11	3	9	72	28
B	162	25	19	13	3	6	67	33
C	240	28	22	9	3	9	72	28
D	117	22	15	12	2	7	59	41
All	175	26	19	11	3	8	68	32

percent for the highest-income group. Low-income farmers have 23 percent of their land in corn compared to 27 percent for all farmers, nearly 29 percent for the higest-income group, a smaller proportion in grain, 15 percent compared to 19 percent, nearly the same proportion in hay and slightly less in other crops. Low-income farmers have proportionately more land in rotation pasture, 31 percent compared to 23, than do all farmers which makes up for deficiencies elsewhere.

The smaller proportion of land in crops may indicate that rougher land, not as well suited to cropping, is more common on farms of low-income operators, or it may indicate that low-income farmers do not push the margin of cultivation as far. Examination of the area figure shows that low-income farms are widely scattered, and concentration in rougher areas can be only part of the answer in Iowa.

The average yields of crops are smaller on low-income farms. Average corn yields are 59.5 bushels per acre for high-income farmers and 46.8 bushels for low-income farmers. Oat yields are 33.0 and 25.0 bushels per acre for Class A and Class D farmers. A frequency distribution of corn yields, table 9, shows that low-income farms which also had smaller acreages, constitute over two-thirds of those reporting yields of less than 30 bushels per acre, while making up less than a fifth of those with yields of 55 bushels or more.

Detailed productivity ratings from the AAA Form NCR-203 were obtained for all except 15 of the 740 farms. The ratings for slope, degree of erosion, inherent and present productivity were compared by income and tenure groups by areas. The averages of the ratings on present productivity by tenure and income groups by areas are shown in table 10. In general, lower-income groups had lower ratings and tenants lower rat-

TABLE 9. DISTRIBUTION OF CORN YIELDS BY INCOME GROUPS. IOWA SAMPLE SURVEY FARMERS, 1939.

Yield	Number of farms					Percent class D of total
	Class A	Class B	Class C	Class D	Total	
Under 10	4	6	1	21	32	66
10-19.9	1	1	0	9	11	82
20-29.9	2	12	2	29	45	64
30-39.9	21	30	3	47	101	47
40-49.9	46	47	10	46	149	31
50-59.9	67	46	17	50	180	28
60-69.9	55	37	12	18	122	15
70-79.9	33	19	4	9	65	14
80 and over	18	11	0	6	35	17
Total	247	209	49	235	740	32

ings than owners; however, the variations within each sub-class were quite large so that the differences were not statistically significant except in the Northeast Dairy Area. The ratings made by the AAA county committeemen are almost entirely on the basis of their experience which is usually heavily weighted by the four to six counties in their immediate vicinity. The subjective nature of these ratings means that many other elements are involved which cannot be accurately known.

Farmers were asked to report the soil problems met in the operation of their farms. Comparisons with higher-income groups are not possible. However, a high proportion of low-income farmers reported such problems as noxious weeds, periodic overflows, sheet erosion, gully erosion, sandy spots, alkali spots and other soil problems. The large number of replies, even from such an area as the Cash Grain area, suggest that these problems are more common and severe for low-income farmers, especially taken in association with the other evidence of lower productivity.

The land-use pattern just described may be the results of other factors besides topography such as small needs resulting in low-pressure farming or a livestock enterprise requiring more pasture. In yields of crops, managerial ability and technical efficiency are confounded with productivity. The AAA productivity rating would seem most satisfactory, but the differences in ratings between counties are slight, even with extreme cases, such as Decatur and Palo Alto County, and within

TABLE 10. PRESENT PRODUCTIVITY RATING OF FARMS BY INCOME AND TENURE GROUPS, BY TYPE OF FARMING AREAS. IOWA SAMPLE SURVEY FARMERS, 1939.*

Income group	Northeast dairy	Cash grain	Western livestock	Southern pasture	Eastern livestock
Class A					
owner	13.6	14.3	13.1	13.3	14.0
tenant	13.5	12.2	12.7	13.2	13.3
Class B					
owner	11.8	14.6	12.6	12.1	11.6
tenant	12.1	12.1	12.0	11.4	12.3
Class C					
owner	----	13.8	12.9	11.3	12.5
tenant	----	12.0	13.4	13.0	13.0
Class D					
owner	11.8	13.8	14.6	11.2	11.8
tenant	10.7	12.3	11.5	11.0	11.7

Note: Income in Northeast Dairy area is statistically highly significant. Tenure in Cash Grain area is statistically highly significant. All others are not statistically significant.

* Taken from AAA Form NCR-203. Ratings range from 0 to 20.

counties the differences between farms are usually not very wide. There are some indications that the necessarily limited geographical experience of most county committeemen results in different concepts being attached to the terms upland, rolling and level, or to slight or medium erosion in different areas of the state.

It is fairly clear that a relationship exists between low income and low-crop yields, less intensive land use, soil depletion, and inadequate erosion-control methods and that these in turn probably are tied in with the difficulties engendered by the limited amount of capital apparently available to these farmers. It is not so clear, however, whether the low income alone is responsible for limited capital and low yields, or whether there has also been some movement of low-income operators toward farms which have suffered considerable deterioration resulting in some cases of exploitive farming. It should be recalled that the most striking differences between income groups are not in the quality of land but in the quantity of land under their management.

If rental rates or capitalized values are lower, sufficiently to take account of the differences in productivity just enumerated, no casual relationship between productivity and income can be drawn. Actually, both rental payments per acre and land building values per acre were smaller in the low-income group, but it was not possible to go very far in determining whether the values or rental rates were at the level warranted by the productivity of the land. Other studies suggest that poor land is over-valued and good land under-valued as measured by tax assessment and mortgage appraisal values.

However, it should be remembered that the very substantial differences in the size of farms makes relatively unimportant the differences in rental rates or values. A halving of the rental rates, a rather drastic change, would add an average of $300 to the net income of the tenant. Of much more significance in improving income would be an increase in size to that of higher-income operators provided the larger acreages could be efficiently utilized, and almost as important, as will be shown later, is the problem of utilizing the smaller acreages effectively.

CHARACTERISTICS OF CAPITAL EQUIPMENT AND VALUE AT VARIOUS INCOME LEVELS

The second item of interest in the fourfold separation of productive factors is the amount and quality of the capital resources available to these farmers.

LIVESTOCK INVENTORIES

Iowa farmers included in the sample survey reported the average inventory value of their livestock on Dec. 31, 1939, at $1934. Low-income farmers reported $1060, while high-income farmers reported $2658 in livestock inventories as shown in table 13. The size of the livestock enterprise is, of course, modified considerably by the geographical area and by the kind of farming practiced. Comparisons by type of farming areas show the same differences in value between income classes except that the differences are larger for the Eastern and Western Livestock and Southern Pasture areas. As between types of farms, the differences are reduced in the case of general and hog farms but, nevertheless, remain substantial.

The per acre values of closing livestock inventories on low-income farms are lower than the average of all farms, although in some areas as high as Class B farms. Owners have more livestock per acre than tenants in nearly all income groups in all areas. However, table 11 shows that in terms of actual numbers rather than values, tenants have as much livestock as owners, though slightly less per acre because of their larger farms. Within the low-income group, single operators and new farmers have considerably lower inventory values per acre, while semi-retired and part-time farmers have the largest per acre values.

A detailed comparison of the numbers of each type of livestock owned shows that low-income farmers emphasize dairy cattle and chickens at the expense of hogs and particularly beef cattle even though they do have fewer animals of each type than do other farmers. The difference is even sharper for renters than for owners. As will be shown later, the per acre labor force is larger on low-income farms, so the emphasis on these types of livestock represents an attempt to utilize this labor force more fully. In spite of these adjustments low-income farms do have smaller livestock inventories per acre, again revealing a smaller intensity of utilization of land.

MACHINERY, AUTOMOBILES AND TRUCKS

The machinery inventory of low-income farmers as given in table 13 is $657 compared with $1619 for Class A farmers and $1172 for all farmers. In most cases the differences between owners and tenants are small. The per acre values vary from $7.05 for Class A and $6.70 for Class B farms to $5.66 for Class D farms. Part-time farmers, with small farms, averaged $6.31 per acre while semi-retired farmers and farmers not classified,

TABLE 11. NUMBERS OF LIVESTOCK PER FARM BY INCOME AND TENURE GROUPS. IOWA SAMPLE SURVEY FARMERS, DEC. 31, 1939.

Income and tenure groups	Horses and mules	Beef cows and heifers	Dairy cows and heifers	Hogs raised and purchased	Chickens
Owners					
Class A	4.8	5.5	8.4	98.1	186
B	4.2	3.8	7.0	61.2	185
C	5.5	5.6	8.2	126.8	167
D	2.9	2.2	4.0	34.9	126
All	4.1	4.0	6.6	69.5	164
Tenants					
Class A	5.3	5.7	7.6	103.3	204
B	4.0	4.3	6.7	66.8	158
C	4.7	1.9	7.8	94.2	174
D	3.0	1.2	5.4	38.6	128
All	4.1	3.6	6.6	71.4	165
Total					
Class A	5.0	5.6	8.0	100.6	194
B	4.1	4.1	6.8	64.5	169
C	5.0	3.4	7.9	107.5	171
D	2.9	1.7	4.7	36.6	127
All	4.1	3.8	6.6	70.5	164
Percent Class D of av.					
Owners	75%	53%	64%	53%	77%
Tenants	75	33	82	54	77
All	75	47	73	53	77
Low-income groups					
Single operators	2.4	2.4	3.4	33.9	63
Semi-retired	2.6	1.1	3.8	24.3	138
Part-time	2.3	1.5	3.5	26.2	86
Not classified	3.0	1.3	5.0	47.5	114
New farmers	2.8	1.3	5.5	45.9	122
Commercial	3.4	2.1	5.4	42.5	149
All	2.9	1.7	4.7	36.6	127

averaged less than $5.

Some indications of the number and age of machinery on low-income farms are available from the second enumeration, but no comparisons with the higher-income groups can be made. The age and number of various machines such as wagons, plows, harrows, cultivators, binders and mowers were obtained for 178 farms. Of these, two reported owning no machines, borrowing or hiring whatever they needed, and several others borrowed most of their needs, while the rest reported an average of nearly 11.5 machines per farm. Three-fourths of the machines were 10 years old or older. Part-time and semi-retired farmers had a slightly larger proportion of older machines. Semi-retired farmers had a smaller number of machines, apparently because they had fewer of the more special-

ized machinery such as binders and corn pickers. Only eight low-income farmers or 4 percent reported owning a corn picker in June, 1940, even though 10 percent of the farmers in the state owned corn pickers in January, 1940 (15).

In spite of the lower total and per acre inventories of machinery, low-income farmers paid only slightly over half as much for hiring machines as did the higher-income group. These differences indicate considerable substitution of labor for machinery or rather that machinery has not been substituted for labor.

The number of farmers owning automobiles, trucks and tractors by income and tenure groups is shown in Appendix table 4. The relatively small number of trucks on Iowa farms are found most frequently among high-income owners. Tractors are more common among tenants than owners and much more frequent among higher- than lower-income groups, 80 percent of the top-income group owning tractors as compared to 40 percent for the lowest. Automobiles are even more prevalent and show little variation between income groups. The major differences, if any, probably will be in the age and models of automobiles. The 115 farmers in the lowest-income group, the only group for which data are available, reported the average age of their automobiles at 7.6 years at the time of the enumeration. Moreover, 103 of the 115 were Fords, Chevrolets or Plymouths. It is evident that this group of farmers does not have heavy investments in automobiles.

Repairs to machinery average $13.50 on low-income farms and $36.40 on high-income farms, in both cases slightly over 2 percent of the inventory value of machinery. This would indicate that repairs are needed about as frequently in both classes, differences in amount of machinery being taken into account. If the machinery on low-income farms is older and more in need of repairs, it is balanced by more home and hence cheaper repairing, by less use and perhaps by less complicated machinery requiring cheaper parts.

Low-income farmers reported that new investments in machinery during 1939 averaged $83.60; the average of all farmers was $197, while high-income farmers invested over three times as much as low-income farmers. At the same time there was a decrease in the inventory values of machinery on hand of $51.80 for low-income farmers and $126 for high-income farmers, leaving a net investment in machinery during 1939 of $159 for Class A farmers, $85 for Class B, $277 for Class C and $32 for Class D farmers.[19]

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[19] Net investment in machinery is $74 for Classes C and D combined.

BUILDINGS

Per acre values of buildings on farms are highest for the low-income group, but the total values are smaller. The reason is that while low-income farms have smaller building investments than others, they also have fewer acres over which to spread the cost. Repairs, improvements made and depreciation can be compared only for owner-operated farms. Some tenants did make small expenditures, but those of the landlord were not generally reported. The expenditures made by owners are shown in table 12. Thus Classes B, C and D farmers show a net disinvestment in buildings in 1939 and farmers as a whole a slight increase in net inventory values.

Material is not available to compare the type or adequacy of housing in various income groups or the kinds of buildings and improvements in maintenance which appear as incomes increase.

TOTAL CAPITAL MANAGED

This and the subsequent section involve a discussion of capital assets in which no distinction is made between land and capital. A frequency distribution of total capital assets on each of these farms, including land, buildings, crop, livestock and machinery inventories (Appendix table 3) shows that there were 13 farmers operating with capital valued at less than $2500 while 67 managed over $40,000 capital. Twelve of the first 13 were low-income farmers, but none of the 67 was. The average amount of capital managed by all farmers, table 13, was $20,400, but 88 percent of the low-income farmers managed capital valued at less than $20,000. The average value of the capital managed was $11,900 on low-income farms and $28,500 on the highest-income farms. It is clear that low-income farmers simply do not have as many physical resources under their control as do higher-income farmers.

TABLE 12. BUILDING REPAIRS AND DEPRECIATION AND NET CHANGE IN VALUE FOR OWNER FARMS. IOWA SAMPLE SURVEY FARMERS IN 1939.

Income group	Repairs	New impvts. purchased	Depreciation	Net invt. increase
	$	$	$	$
Class A	106	296	172	124
B	60	67	120	-53
C	146	156	212	-56
D	33	38	98	-60
All	73	147	137	10

TABLE 13. VALUE OF INVENTORIES BY INCOME AND TENURE GROUPS. IOWA SAMPLE SURVEY FARMERS, DEC. 31, 1939.

	Value of land dollars	Value of buildings dollars	Value of livestock dollars	Value of mach. dollars	Value of crops dollars	Total value dollars
Owners						
Class A	17,500	6032	2752	1669	1510	29,463
B	9,609	4231	1808	877	774	17,299
C	15,324	7270	3269	1900	1909	29,672
D	6,050	3305	1051	582	457	11,445
All	11,634	4752	1982	1126	1002	20,496
Tenants						
Class A	17,199	5036	2252	1563	1249	27,599
B	11,339	3932	1910	1197	722	19,100
C	16,495	4810	2410	1805	1024	26,544
D	7,162	3092	1069	735	365	12,423
All	12,247	4080	1890	1215	797	20,229
Total						
Class A	17,359	5564	2658	1619	1387	28,587
B	10,636	4054	1868	1067	744	18,369
C	16,017	5815	2760	1844	1385	27,821
D	6,594	3201	1060	657	412	11,924
All	11,952	4404	1934	1172	896	20,358

Land represented approximately 55 to 60 percent of the total, buildings 20 to 28 percent, while land and buildings together were between 76 and 82 percent of the total capital in all income and tenure groups. Buildings represented a somewhat larger and land a somewhat smaller proportion of assets on low-income farms. Crop inventories were 3 to 5 percent of the total and lower on low-income farms, while machinery inventories were 5 to 7 percent and lowest relatively in Classes A and D. Livestock inventories varied from 8.5 to 10.5 percent of the total.

EQUITIES

An individual farmer with a small amount of personally owned resources might build up a larger enterprise by heavy borrowing (also involving greater risks) or by renting. On the other hand, a heavy debt load has often been considered a drain on current income and a hindrance to additional investment and expansion of the farm business. Reports were obtained on the source and amount of credit from 441 of the 740 farms and in approximately the same proportion from each income and tenure group. The remainder were either out of debt or refused to report their debts. One farmer, a renter, had assets valued at $1600 and debts of $2800, and four other farmers had debts of more than 100 percent of their assets. However, as table 14 shows, most farmers had debts of less than 40 percent

TABLE 14. DISTRIBUTION OF DEBT LOAD AS PERCENT OF ASSETS OWNED, BY INCOME AND TENURE GROUPS. IOWA SAMPLE SURVEY FARMERS, 1939.*

Percent debt	Number of farms					Percent Class D of all percent
	Class A	Class B	Class C	Class D	All	
Owners						
.1-10	28	8	--	29	65	45
10.1-20	15	13	1	10	39	25
20.1-30	14	7	3	11	35	31
30.1-40	9	12	4	9	34	26
40.1-50	9	7	2	7	25	28
50.1-60	5	3	--	6	14	43
60.1 and over	9	2	2	6	19	32
Total	89	52	12	78	231	34
Tenants						
.1-10	20	17	5	19	61	31
10.1-20	21	25	4	8	58	14
20.1-30	11	12	2	7	32	22
30.1-40	5	10	1	8	24	33
40.1-50	1	1	2	3	7	43
50.1-60	1	3	1	7	12	58
60.1 and over	2	4	1	9	16	56
Total	61	72	16	61	210	29

* Includes only farmers reporting debts.

of their assets. The average debt load for all owners and tenants was 25 percent, as shown in table 15. Low-income owners have the same proportion of debts to assets as high-income owners, while low-income renters have relatively smaller debt loads. The value of their assets, of course, is much smaller as is the value of their equity.

TABLE 15. ASSETS, LIABILITIES AND PERCENT EQUITIES BY INCOME AND TENURE GROUPS. IOWA SAMPLE SURVEY FARMERS, DEC. 31, 1939.*

	Income Groups				
	Class A dollars	Class B dollars	Class C dollars	Class D dollars	All dollars
Owners	36,130	18,316	31,411	15,668	
Av. assets owned					24,334
Av. debt	8,366	4,781	13,329	3,650	6,053
Av. equity	27,764	13,535	18,082	12,018	18,281
Percent debt	23%	26%	43%	23%	25%
Tenants	dollars	dollars	dollars	dollars	dollars
Av. assets owned	5,202	3,470	5,664	2,157	4,235
Av. debt	1,831	714	1,316	560	1,051
Av. equity	3,371	2,756	4,348	1,597	3,184
Percent debt	35%	21%	23%	26%	25%

* Includes only farmers reporting debts.

Low-income farmers were asked questions about needs for which they would borrow and purposes for which they had borrowed in the past. Replies from 71 owners and 74 renters on needs and past borrowings show that no low-income renter objected to borrowing to buy land although several owners objected to borrowing to buy more land. Four owners and 17 tenants had borrowed to buy machinery, while 39 owners and 47 tenants felt that they needed machinery but would not borrow to buy it. Eight owners and 18 tenants had borrowed to buy livestock, while four owners and three tenants were opposed to borrowing for this purpose. Thirty-eight owners needed building repairs but were opposed to borrowing for this purpose, while only one owner had actually borrowed. Replies on other needs were fragmentary but indicate that this group of farmers is not interested in borrowing to increase working capital assets.

The general attitude of farmers on these questions, as indicated by notes on their replies, was one of caution. Some felt that borrowing was immoral and to be avoided at all costs, while others felt no real need for additional credit or capital resources. They considered it somewhat of a disgrace and a necessary evil to go into debt rather than an opportunity to improve the combination of resources at their disposal. At least part of the explanation of this attitude lies in the tangible evidence so close at hand of the dangers of too much in debtedness during the last two decades, so that some, perhaps many, farmers are inclined to consider the uncertainty element too large in future economic events. It also shows that the possible gains from expansion and reorganization either appear rather small or uninteresting to these farmers.

Farmers have borrowed funds from a wide variety of agencies, but even so the local bank is still by far the most important single source. There are differences between income and tenure groups, but they are substantial in only a few cases. The Farm Security Administration has loaned to relatively more low-income farmers, but even so a third of its borrowers were in higher-income groups.

The credit structure in agriculture is geared to provide loans up to a certain percentage of the value of the borrower's property, and it is only with difficulty that larger amounts can be borrowed. Only 35 out of 441 farmers reporting debts borrowed over 60 percent of the value of their property and only 61 over 50 percent. When the net worth of a tenant is under $1000 and of an owner under $3000 or even $5000 it is obvious that he cannot obtain control of a very large enterprise unless he has other intangible assets such as a well-to-do father. The

granting of credit is all too seldom related to the optimum size of farm and most efficient combination of resources, so that credit rationing is likely to result when the borrower has only a small amount of assets to offer for protective security, which, as we have seen, is often the case with low-income operators. However, the replies received in this study show that, among low-income farmers at least, there are considerable limitations on the demand side, where potential borrowers by over-estimating the risks involved, coupled in many cases with real or imagined loss of social prestige, overestimate the expected costs, either do not borrow at all, or borrow too little and, hence, do not attain the most profiitable combination of resources. Borrowing for the purchase of land is probably subject to more rules and regulations than most other agricultural loans, yet this is the item for which farmers are most willing to borrow; this suggests that the capital market is rationed on the supply side with reference to land and limited on the demand side for most other items. In either case, it results in socially inefficient production units

LABOR AND ENTREPRENEURIAL ABILITY

In the two preceding sections it has been shown that low-income farmers have less land and less capital resources and that these resources are somewhat lower in quality. These differences, however, must be related to the labor force available and the needs of the families, since the proportioning of all factors would be little different if labor force and family size were reduced by half on low-income farms or if needs measured objectively were reduced by half regardless of family size. It has already been shown that the family size of Survey farmers is smaller but only by slightly over 10 percent. Enough has been done, however, to show that the needs, while smaller, are not sharply different, certainly much less than the differences in income. It is now necessary to compare the labor force by income groups.

Another question relates to the entrepreneurial capacities of these farmers. In general population experts (41) seem unwilling to accept the conclusion that the inherent ability or quality of the population does vary by income groups or strata in society but, instead, maintain that the most plausible hypothesis is that inherent ability is distributed at random over income. This, however, does not mean that actual differences in the degree of ability to adapt to changing conditions do not exist but means that such differences generally must be explained in terms of background and experience. If it can be

shown that differences in entrepreneurial ability do exist, the implications to be drawn with reference to social policy are in terms of breaking down social stratifications where they do exist and in modifying the environment so as to provide greater equality of opportunity. Low-ability entrepreneurs probably are not and their children certainly are not necessarily permanent relief cases or in need of similar subsidies, provided the necessary measures are taken to improve their environmental background and experience. The necessary measures may well be difficult, however. In referring to low-income farmers in West Virginia, Dean Orton of the University says (7):

> "We have two rather distinct classes of farm people: we have the more prosperous farmers, with the large farms, that live in the valleys and the poorer ones, with small farms, that live in the hills. These people in the hills do not come down to attend meetings in the valley. . . . they frankly admit nothing in common with the more prosperous farmers. They have a philosophy of their own."

A number of comments of low-income farmers indicate that similar attitudes may be found in Iowa, though not developped to this extreme position.

The usual identity of the farmer as an entrepreneur and as a source of labor leads to some difficulty in handling the two functions analytically, since factors which lead to high-grade entrepreneurial capacity usually also make for a labor supply which performs its operations with more efficiency and dispatch on the farms concerned. A number of different indications of the quantity, quality, and out of these, the capacity of each is at hand and will be presented in order.

LABOR SUPPLY

The amount of labor used increases slightly as income increases but is spread over a larger business so that if the amount of labor is related to acreage, livestock values or numbers or total capital invested, the amount per unit is larger on low-income farms. Several of these measures of labor supply are shown in table 16. If these acreage and livestock relationships were combined, the over-all relationship of labor supply to size of business would show even more clearly that low-income farmers have relatively larger physical quantities of labor available. The implications of this fact will be discussed more thoroughly in a later section. Tenants used more operator and family labor than owners in all but the highest-income group, partly because of their lower age, and used less hired labor than owners. It is not possible to study in more detail the

TABLE 16. AMOUNTS OF OPERATOR, FAMILY AND HIRED LABOR DURING 1939 RELATED TO SIZE OF BUSINESS BY INCOME AND TENURE GROUPS. IOWA SAMPLE SURVEY FARMERS, 1939.

	Months of operator labor	Months of family labor	Months of hired labor*	Months of labor available	Months of labor per acre	Live-stock invt. per man-month dollars	Capital invt. per man-month dollars
Owner							
Class A	11.8	8.2	7.8	27.8	.120	99	1060
B	11.7	4.8	3.2	19.7	.134	92	878
C	11.3	3.6	14.6	29.5	.113	105	978
D	11.0	5.1	2.4	18.4	.170	60	642
All	11.5	6.1	5.2	22.8	.134	87	899
Tenant							
Class A	11.9	6.0	6.4	24.3	.106	101	1132
B	11.8	6.7	2.4	20.9	.122	91	918
C	12.3	7.8	4.8	24.9	.111	97	1066
D	11.1	5.7	.8	17.6	.138	60	702
All	11.7	6.3	3.3	21.3	.118	88	951

* Hired labor figured at $30.00 per month from total expenditures for hired labor, since many farmers did not report days and in other cases there was confusion among enumerators as to how many days constituted a month. Furthermore, a uniform rate in part corrects for differences in the ability of hired men.

characteristics of the labor supply—the quantity and quality of the operator, family and hired labor available—for each of the individuals.

A direct count of family labor is available for 182 low-income farms from the second enumeration. The number of males between 16 and 65 who were living on the farm and not attending school were summarized by type-of-farmer. The average for all reporting was 1.1 persons, but semi-retired farmers had only 0.6 persons available. Commercial farmers had 1.3 persons, part-time farmers and single operators 1.2 persons and new operators 1.1 persons. Part-time farmers spent part of the year elsewhere so the actual amount available probably approaches the amount for semi-retired farmers. Both of these groups have farms averaging about 75 acres. Single operators probably have additional time-consuming tasks which limits the effective labor supply. Commercial farmers have the largest labor supply but also some of the largest farms, while new farmers with nearly as much acreage have a relatively smaller labor supply. In relation to acreage and livestock numbers, with these other necessary duties considered, commercial farmers appear to have relatively the largest effective labor supply, and new farmers to have relatively the smallest supply, but new farmers may be able to perform more work per unit of time than older farmers.

MEDICAL BILLS

Low-income farmers were asked for the amount of their medical and dental bills for the last 5 years and for any chronic cases of sickness. Several farmers had bills of about $1000 over the 5-year period while many others had more or less chronic cases of rheumatism, arthritis, infantile paralysis, goiter or similar ailments. Sixteen farmers out of 183 reported chronic ailments of the operator, five of them among farmers over 60, while eight were commercial farmers.[20]

Thirty-three farmers reported chronic ailments to other members of the family or expenditures of $150 or more in the last 5 years. In nine cases the operator was over 60 though in three cases a son was also home. In 22 cases the farmer was a commercial farmer and in three cases a new farmer.

A more detailed tabulation is shown in Appendix table 5. Some of the expenditures, especially for those reporting $50 to $150, represent child births, appendectomies and similar cases in normally healthy families. In nearly 10 percent of the cases the operator seems to be definitely handicapped by chronic illness, and in roughly 25 percent, there seems to be a steady drain on the family resources for medical attention.

FARM PRACTICES

Farmers visited in the enumeration were asked whether they had followed certain approved practices, 14 in all, and low-income farmers were asked several additional questions in the later enumeration. The comparison of their answers by income groups will provide some indication of the entrepreneurial ability of these farmers, since it would be expected that the more capable operators would be more likely to follow these more profitable practices.[21] It is possible to obtain good results in various ways, and in some cases not all the alterna-

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[20] Several examples will dramatize the situation: In one case the husband was hospitalized for 7 weeks following the bursting of an appendix, one baby died, wife had an operation and the farmer burned his hand severely, at a total cost of over $1000. In a second case the farmer has had pneumonia twice, has piles and back trouble. The present medical bill is $640. The wife makes all the trips to town. In another case the enumerator says: "Health situation is terrible. The farmer was laid up for 3 months with rheumatism last winter when he had to hire labor to run the farm. Hospitalized for a while costing $70. Not cured yet; needs more treatment. Children are all hard of hearing, go around open-mouthed, one had a running nose, all seemed listless and dull. The doctor has ordered immediate operations on all three for tonsils and adenoids, but farmer says he has had enough doctor bills for a while and is letting this need ride."

[21] Comparisons by area, size groups, tenure, income and type of farm have been made by Robert Menze and J. A. Hopkins (25). Most of the material summarized here in regard to the whole sample came from their study, and was set up by them so as to supplement this study.

tives have been listed. Since space in the schedule was limited, all these ramifications could not be explored.

Low-income farmers reported following desirable practices relating to hogs about as frequently as did higher-income farmers, as shown in table 17. Some of these are, in fact, alternative practices which probably account for part of the absence of variation. In feeding protein supplements to hogs, low-income farmers are clearly behind. In the case of nearly all other practices there are rather substantial differences between income groups. Some of the largest differences are found in the two practices relating to poultry, traditionally an enterprise of the housewife and an enterprise which is relatively more important for low-income farmers.

Farmers on small farms followed these practices less frequently than farmers operating large farms. Since low-income farms are generally smaller farms, all differences between income groups might be eliminated by adjusting for acreage. This comparison was made for three practices by showing considerable variation and for two practices showing little variation by income, and the results show clearly that within income groups there are virtually no differences in the use of accepted practices by farmers in different acreage groups. Hence, the conclusion is clear that low-income farmers do not follow as many desirable practices.

TABLE 17. VARIATIONS IN USE OF APPROVED FARM PRACTICES BY INCOME GROUPS IN PERCENT OF ADOPTION. IOWA SAMPLE SURVEY FARMERS, 1939.

Farm practice	Class A percent	Class B percent	Class C percent	Class D percent	Test of Significance*
Plowed legume crops under	26.8	24.7	31.8	14.3	‡
Planted high-yield pasture crops	40.3	30.7	43.2	24.7	‡
Produced pure-bred hogs	10.2	11.7	7.1	11.5	§
Produced graded-up hogs	46.2	45.7	54.8	44.6	§
Produced cross-bred hogs	45.8	45.5	40.5	44.9	§
Used pure-bred boar	77.3	78.7	78.4	75.0	§
Earmarked pigs at birth	15.4	16.5	28.6	11.2	§
Selected gilts from large litters	33.8	34.6	43.9	36.9	§
Fed milk cows grain on pasture	40.2	37.6	44.2	32.5	§
Fed protein hay to cows in winter	82.1	77.4	83.7	66.0	‡
Fed dry mash to poultry all year	51.3	39.4	47.7	30.0	‡
Fed dry mash to young poultry	68.9	55.1	68.2	46.2	‡
Fed protein supplement to milk cows	16.5	17.3	31.1	8.3	†
Pounds per cow	100.4	116.8	193.0	304.5	§
Fed commercial feed to pigs	68.5	69.7	65.0	56.2	†
Pounds per pig	31.6	31.8	35.8	20.4	§

* Tests of significance were run for Classes A, B and D. Class C was quite small and irregular. In some cases, the differences between Class D and Classes A and B combined were statistically significant; in other cases each difference was statistically significant.

† Statistically significant.

‡ Statistically highly significant.

§ Not statistically significant.

Hybrid corn is not planted as frequently by low-income farmers as by all farmers in the state. Twelve percent did not plant any in 1940, and 9 percent planted only part of their acreage to hybrid corn, compared with 10 percent of the acreage not planted to hybrid corn in the state as a whole. Most of the chicks were bought or hatched in late April and May; only a few started chicks early. The facilities of low-income farmers may not permit early starting of chicks, but in any case they are barred from the early broiler market and from the early fall egg market. The same situation holds for time of farrowing, and time required to raise pigs to market weights is also longer. Again their facilities may be such that late farrowing is the most profitable practice, but the conclusion to be drawn is either that facilities are inadequate or that the operator plans poorly for the market. Either can be corrected and should increase the income.

COUNTY AGENT CONTACTS

Comparable data on high-income farmers are not available, but the paucity of direct contacts with county agents (Appendix, table 6) indicates that there must be a considerable differential in the use of this source to obtain knowledge of new farming methods or of solving current problems.[22] The fact that nearly 80 percent of low-income farmers made no direct use of the county agent means that the Iowa Extension Service is providing much more service for the top-income farmers, and further, that practices advocated by the Extension Service came second or third hand if adopted at all, a lag which may have very important income effects with a changing agriculture and a dynamic price structure.

NEWSPAPERS, MAGAZINES, RADIO AND BULLETINS

The contacts with these other media of communication are decidedly more frequent than contacts with county agents, although comparisons of differential contacts with higher-income farmers cannot be made. Less than 10 percent of the farmers reporting did not subscribe to farm journals, newspapers and other magazines. A large proportion listen to news and agricultural information broadcasts regularly. A fourth and a third, respectively, receive publications from Iowa State College and the U. S. Department of Agriculture, a larger number

[22] This is emphasized by the answers to the question given by low-income farmers interviewed, as for example: "County agent is Farm Bureau employee," "Dropped out of Farm Bureau recently," saying that "the county agents shouldn't merely help Farm Bureau members," "County agent only helps rich farmers, and the FSA representative plays favorites and sees us too seldom." On the other hand, such comments as "Good friend," "See him regularly," and "Helps a lot" are found also. Nevertheless, the vast majority have no contacts with him and may not even know his name.

than use the county agent. Only two received the Iowa Farm Economist.

In spite of fairly high contacts with these other media (which even so may be lower than for other income groups) there is no assurance that sufficient attention is given at the time of reading or listening to obtain knowledge which can be applied. However, appropriate methods of presentation should intensify attention and aid in the effectiveness of these media.

COMPARISONS WITH FARM SECURITY ADMINISTRATION CLIENTS

Farm Security clients operated farms averaging 143 acres, larger than those in the low-income groups but smaller than all other income groups (39). Similar differences exist in the case of crop acres. Fixed capital could be compared only for FSA owner-operated farms but showed a consistently lower value than the lowest-income group of the Sample Survey in all areas of Iowa. The average value of current assets (livestock, crop and machinery inventories) per farm is about the same for FSA clients and Class D operators. Averages were higher for FSA clients in Cash Grain and Western Livestock areas and smaller in the Northeastern Dairy and Eastern Livestock areas. However, if the value of these assets is related to the size of farm, the value of the assets per acre is nearly always smaller for FSA clients.

The reason for the generally lower ratio of current assets to land on the FSA farms may be found in the fact that the FSA supervisors do not accept applicants unless they have farms large enough to provide "adequate" livings when worked with the livestock and machinery which can be made available. Hence it is probable that some of the more obviously uneconomic units in the low-income groups cannot obtain loans, although they may have fairly large amounts of machinery but very small acreage.

Farm Security clients reported almost universally 2 months' more labor than was reported by the low-income operators. In this respect FSA farms were more nearly on a par with the farms of the middle-income groups.

Yields of corn and oats were lower on FSA farms than for Class D farms in the state but slightly higher in the Central Cash Grain and Western Livestock areas.

A number of efficiency factors were available to compare the entrepreneurial ability of FSA farmers with other farmers. The general conclusion from these measures is that the FSA farms were managed more efficiently than were those of low-in-

come farmers, but that the average size of the operating unit was too small to permit a very high income. Capital turnover was higher than for any income group in the Sample Survey suggesting that capital has a very high marginal productivity on FSA farms and that larger loans may be necessary to permit more nearly equating the marginal productivities of capital and labor.

EFFICIENCY OF FARM OPERATIONS

Previously, attention has been directed towards a description of the family characteristics, general income distribution and the physical and human resources at the disposal of low-income farmers, together with some appraisal of the reasons for their income position. In this section, interest will be centered on the efficiency of the farm operations of low-income farmers, and on the balance of factors of production within the enterprise as compared with higher-income operators. In the next section the effectiveness of several agricultural action programs in correcting or improving the weak points in the economic position of low-income farmers will be explored.

In evaluating the economic position of low-income farmers, two sorts of questions arise. The first is: Are low-income farmers combining their resources and capacities so as to maximize their returns? Are they making the most efficient combination of the resources under their control? The second and much broader question is: Do low-income farmers own or control sufficient resources, if properly organized, to provide an income large enough to make a socially desirable standard of living possible? An acceptable pattern of income may be developed and maintained through techniques designed to increase the resources at their command, or distributive efficiency may be attained only through a system of personal subventions. The costs involved in the several possible policies and the possible gains should be evaluated. Some of the gains are economic but others are social, physical and political in nature and cannot easily be measured in dollars.

The interest and sympathy with which ideas reviewed earlier have been received, the strength and size of the Farm Security Administration and the Stamp Plan, and, on the whole, the willing acceptance of their programs, leaves little doubt but that society is willing to take considerable action to reduce the more extreme discrepancies in income distribution, provided there is assurance that the task is being performed efficiently and with promise of permanent improvement.

A consideration of efficiency only can be made in relation to some specific purpose—the maximization of monetary re-

turns, the maximization of security or, perhaps, the maximization of leisure over and above a certain minimum standard of living. The close relationship between the farm family and farm business and between decisions on consumption and business expenditures, adds to the hazards of measuring returns solely in monetary terms. However, under the assumption that farmers do rationally maximize the net income from their productive efforts, the basic condition necessary to realize efficiency[23] within the farm enterprise is that additional units of each factor should be applied until marginal cost equals marginal returns from that factor. The formula or specific content of the production function of farmers at different income levels is exceedingly difficult to formulate, but some indication of the inputs available and outputs obtained is possible.

The nature of the inputs available has been reviewed and shows briefly that low-income farmers are long on labor and short on all other factors of production, in some cases quality as well as quantity. The rational adjustments by low-income farmers, assuming they remain in agriculture, would be of two types; increasing the amount of other resources combined with labor—that is, by increasing the effective size of the farm—or if resources are rationed, by substituting labor for the other factors of production. Various techniques for increasing the size of the business are possible, but not always available; (a) obtaining a larger farm, (b) increasing the amount of livestock per man and per acre even if purchase of feed would be necessary, (c) concentrating on the production of crops, such as hybrid seed corn or commercial vegetables, which require considerable care and attention, and (d) accepting various kinds of work off the farm so as to obtain returns from applying labor to resources other than those on the farm.

It is possible to test the extent to which most of these adjustments have occurred by comparing the aggregate figures for the different income groups and by comparing the different kinds of low-income farmers. Attempts to increase the size of the business by rental or purchase of additional acreage cannot be measured since the detailed description of previous farming experience and aspirations is not at hand. It is of interest, however, that many farmers in the sample—nearly 40 percent —have been on these farms most of their lives.

Low-income farmers have virtually the same proportion of their total inventory in livestock as do other farmers, but when broken down by types of farmers, commercial farmers show a

[23] The concept of efficiency used by Rainer Schickele in a recent article (34) is convenient to use here. Intrepreneurial efficiency refers to the organization of factors within the individual farm, while agricultural efficiency considers the proportioning of human and physical resources throughout the entire agricultural plant.

larger proportion of their resources in livestock while new farmers and part-time farmers show a smaller proportion. If the inventory value of livestock is related to such factors as acreage in farm or man-months per farm, the livestock enterprise is distinctly less intensive for all low-income farmers.

Individual farmers in both the high- and low-income groups have concentrated on the production of labor-intensive crops, but the aggregate figures indicate that low-income farmers have a smaller proportion of their acreage in these crops. Value of crops per crop acre is the result of a complex of factors but is smaller for both owners and tenants in the low-income group. Semi-retired and new farmers have a lower proportion of their land in other crops, but commercial farmers have a higher proportion of their land in truck crops.

Low-income farmers, in the aggregate, receive a slightly larger proportion of their income from off-farm labor, but except for part-time farmers, 11 percent of the total, the amount of income from this source is inconsequential. Nearly 20 percent of the higher-income farmers worked as much as 1 month per year off the farm, indicating that off-farm employment is actually an alternative to more farmers in the higher-income groups, in spite of their larger farms and greater livestock enterprise.

One complication in making these comparisons is evident. Farmers who adjusted their enterprise by increasing livestock numbers, growing more labor-intensive crops and working off the farm should have increased their incomes and are more likely to be in the higher-income groups though not as high as if their resources were not limited, while farmers who have failed to make these adjustments remain in the lower-income groups. The fact that, in general, these adjustments in size of the whole enterprise have not been made on low-income farms seems to indicate one or more of the following weaknesses: 1. Low-income farmers do not have the imagination necessary to see the economic gain possible in making these adjustments. 2. They are unwilling to take on the additional risks and uncertainties involved in thus departing from their traditional methods of operation, partly because of fear of the unknown. 3. They are unable to obtain the necessary capital readily (capital rationing of themselves under (1) above seems as, and perhaps more, important). 4. Many are unwilling to sacrifice the leisure time necessary to make these changes and to maintain the larger enterprise once established. This is related to the small needs for overhead costs and for family requirements on many of these farms and, perhaps, to a satisfaction with the status quo developing as a cultural or psycho-

logical adjustment to long periods at a particular level of income and class in society. Rational maximization of monetary returns from resources is not a good approximation of the goal of the efforts of many of these farmers.

On the side of substitution of labor for land, capital and entreneurship, more evidence of rational economic adjustments are seen, though how much is rational and how much is imposed by credit restrictions is problematical. Low-income farmers have fewer tractors, trucks and automobiles than higher-income farmers. Horse farms generally average smaller acreages than tractor farms, and low-income farms are small farms. Part of the lack of tractors is due to their smaller advantage on small farms but part probably arises out of the larger labor supply, making tractors even less advantageous.

Dairy cows and poultry are a larger proportion of the livestock enterprise on low-income farms than are hogs and especially beef cattle. The emphasis is even heavier for new farmers and to a lesser extent for commercial farmers. These two groups seem to have made an effort to expand the labor-intensive livestock enterprises at the expense of beef cattle. Single operators who have less available labor and more household tasks have proportionately more beef cattle and less dairy cattle and chickens.

All types of low-income farmers have less than the average per acre inventory values of machinery and, in absolute terms, have much less machinery. Furthermore, they do not pay as much for machine hire. The conclusion is inescapable that they are using labor as a substitute for machinery though it may not be solely a matter of conscious choice.

Thus, there is some evidence that low-income farmers are substituting labor for other factors of production, but too much rationality cannot be attributed to the farmers since many of the differences are the same as those between a timid, conservative, unaspiring entrepreneur and a venturesome, imaginative and ambitious entrepreneur in an agricultural economy undergoing considerable change especially in regard to technology. If our conclusion that low-income farmers are less informed and more complacent is true, then much of the substitution, except perhaps for the emphasis on the dairy and poultry enterprises, can be explained in terms of disinterest in maximum returns and unwillingness to change the type of farming These, however, are the aggregate figures which, when examined in detail by types of farmers, show adjustments in both directions. Single operators and part-time farmers, in general, combine less labor with other factors than do new farmers and commercial farmers, who appear to be applying more labor to

the resources at their disposal. Semi-retired farmers are rather mixed, indicating that rational allocation of resources to maximize monetary returns is not the primary goal of all individuals.

With this background of the types of adjustments which have been made, it is convenient to return to a discussion of the differences in the amount of factors available to low-income farmers. Land, machinery and livestock are limited on low-income farms while labor is ample.[24] At least three explanations are at hand: 1. The supplies of these factors are rationed to the farmer by arbitrary rules as to the percentage of value of assets which will be loaned or by interest rates including too high a risk factor. 2. The entrepreneurial capacities of these farmers are suited to small-scale enterprise and could not be successfully used to operate farms encompassing more of these resources. 3. The farmers choose to operate smaller farms with fewer resources and accept a lower income because the risks and uncertainties are smaller, the leisure is greater, and the planning and organization are simpler. As far as the empirical evidence is concerned, each of these seems to apply to particular groups and be partially true for all groups. Each of the three is likely to be partially related to the others, hence final conclusions cannot be drawn on the basis of the evidence at hand.

Regardless of the reason for the situation, the agricultural industry in Iowa is not operating at maximum efficiency. Production and incomes would be increased on these low-income farms if labor were applied more efficiently and better farming practices followed. The effects of various programs dealing with agriculture and the techniques by which improvement might be obtained are the subject of the next section.

EFFECTS OF ACTION PROGRAMS

The action programs relating to agriculture are primarily attached to the physical resources in agriculture rather than to the human resources. They attempt to improve or maintain the land resources, increase the amounts of available capital resources or strengthen the prices of their products. The Extension Service and FSA do relate their programs to both the human and physical factors, but the emphasis in the Extension Service is on the technical organization of resources at hand,

[24] This suggests that much unemployment is hidden in socially inefficient production, in operating units in which the net contribution of the operator to the income of society is less than it would be in some other occupation, but which is unavailable to him because of the costs of moving, including uncertainty and/or because of restrictive practices elsewhere or because of ignorance or inertia. A stimulating discussion of this problem by Joan Robinson is found in the Economic Journal (32).

regardless of amount. Old-age pensions are virtually the only subventions attached to the individual rather than the resources. Only a cursory survey of the AAA, FSA, extension and defense programs will be attempted. A more detailed analysis of attitudes regarding the production plans of various groups of low-income farmers is needed before a full analysis of their inter-relations to various action programs can be made.

AGRICULTURAL ADJUSTMENT ADMINISTRATION

Fewer low-income farmers included in the Survey participated in the AAA program, and the benefit payments each received were considerably smaller than on other farms. However, the proportion of gross income represented by benefit payments is slightly larger on low-income farms in spite of their 15 percent lower participation. The lower ratio of participation and the smaller absolute payments are both results of the smaller acreage at their disposal and, to some extent, of the lower productivity of their land. This is not the place for an evaluation of all the various facets of the AAA program;[25] it is, however, in order to point out that while the AAA has had considerable effect in increasing agricultural incomes in Iowa and in modifying the income distribution as between agriculture and other industries, its effects upon the distribution within agriculture, in Iowa at least, are of a minor character. Much of the popular support of the AAA, outside of agriculture, has come from the belief that it was helping materially to reduce agricultural poverty, primarily as between agriculture and other groups, but also within agriculture. In spite of this, benefit payments are large to those controlling considerable quantities of land resources and small to those who do not. Furthermore, hired labor receives no direct and very little, if any, indirect aid through the program.

Enough has been said to show that the present allocation of benefit payments does not effectively reduce the disparities in incomes among Iowa farmers. Such additional benefits as come through crop sealings and resealings are even more concentrated within the high-income groups since they have or can more easily insure having a surplus crop to store and, perhaps even more important, they have the needed facilities for storage. To the extent that prices of various agricultural products are strengthened by the acreage restriction and corn loan programs, the benefits are allocated in accordance with the volume of these products sold. Actually the two programs apparently have increased the incomes of high-income farmers relatively

[25] See, however, a recent article by T. W. Schultz (36).

more than the incomes of low-income farmers in Iowa. Income disparities cannot be corrected by price policies alone.

If the aim of the program were definitely to supplement income, and to reduce income disparities within agriculture as well as between agriculture and other occupations, then payment of part or all the grant might be made conditional upon the fulfillment of certain requirements attached to the person instead of the resource. For example, instead of paying for each acre shifted to certain crops or for practices related to soil conservation, payment might be made conditional upon the attainment of a certain minimum diet, or improvement of housing, education, or to following certain practices such as livestock sanitation or for use of a registered or proven sire. The latter two might be extremely useful in increasing food production during the war emergency.[26]

FARM SECURITY ADMINISTRATION

The program most closely tied in with the problems of low-income farmers is the rehabilitation program of the FSA (10). The organization of farm and home supervisors in close contact with clients and the method by which loans and grants are made seem well adapted to deal with the problems of low-income Iowa farmers. This study has shown that considerable differences between farmers do exist, that no one program can solve all the problems, but that flexible and imaginative planning is needed, followed by capable and sympathetic supervision. To what extent is this superficial compatability of problem and program borne out in practice?

There were 29 FSA borrowers in the total sample, 3 in Class A, 7 in Class B and 19 in Class D. Only four were owners. The average was somewhat over 150 acres and the average loan $650. The number of cases was too small for intensive analysis, but it is of interest that of the 19 clients in the low-income group, eight were commercial farmers, five new farmers, only one a part-time farmer, while the rest were in the group not classified. Summaries of family type and age distribution of FSA clients show a high proportion of farmers under 40 years and a low proportion in the number over 50 years and also a larger family size than is the case with the low-income sample studied here (39). The FSA is used by more younger men and very

[26] Since this section was written there has been a shift from the basic assumption of output restriction to one of increasing food production arising out of the sharp increases in domestic and foreign demands. As yet AAA procedures have not been modified sufficiently to take account of the changing situation. Since low-income farmers follow fewer of the best practices than higher-income farmers, rather substantial increases in production should be possible if a shift to payment for practices is made. Furthermore, distributive efficiency would be increased by these techniques of payment.

few small and abnormal families. Moreover the greater portion of their clients are tenants rather than owners.

In general the FSA program would be of little use to semi-retired and single operators and they would have little reason to seek the FSA since their needs and aspirations are generally small and the farmers consider them to be fairly adequately covered (actually single operators are not eligible for loans). From the strictly economic point of view, their farming operations are socially inefficient, but it would be difficult to show that these groups were not, in fact, maximizing their satisfactions. Unless there are important reasons for having the resources under their control used more effectively, most of these farmers do not constitute a problem for the FSA or any other agency except perhaps old-age retirement boards.[27]

Part-time farmers are a more heterogeneous lot. Some are urban workers living on a small acreage either through desires for country freedom and openness or to increase their security by diversification, but these are not in the low-income group except during periods of unemployment and, hence, are primirably an urban and business cycle problem. A few may be similar to semi-retired farmers with a small income from other work and few needs for income. However, many of them are farmers who need the other work to supplement a meagre agricultural income. In some cases it should be possible to stimulate socially desirable migration[28] and consolidate the farm with another small farm. On the other hand some farmers may be suffering from acute capital rationing and be able to produce very high returns on any capital loaned to them. The FSA supervisors must decide which of these is, in fact, the situation and plan accordingly rather than to apply the same policy to each farmer and to plan to hold all in agriculture.

Commercial farmers and new farmers are over 50 percent of the sample and are certainly the first interest of the FSA. If any group of farmers is subject to capital rationing it is the new farmers who are not fortunate enough to have parents able to give them a start in farming.[29] Furthermore, unless they serve an apprenticeship as a hired man to some capable farmer,

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[27] The recent shifts in war needs suggest that improvement of the economic efficiency of these farmers may soon become a war measure.

[28] So long as individuals are expected to pay their own costs of moving and the aura of uncertainty about most movements remains great, private sources of credit are likely to be expensive or absent and will handicap migration. Some type of clearing house furnishing employment information on regional opportunities and credit if needed may be the answer or perhaps guarantees by the industry needing employees. FSA cannot now make loans of this nature.

[29] A discussion of capital rationing will not be attempted here. An article by T. W. Schultz (35) discusses some aspects of the problem. It will only be pointed out that one of its effects is that more labor is combined with other factors of production.

they are likely to be limited in vision and lacking in knowledge of recent technology. Thus, the FSA is able to assist them in two ways, by supplying capital permitting a more effcient combination of factors for owners as well as for tenants, and by furnishing supervision and technical advice so that more profitable economic and technical practices are followed. There are some questions about the extent to which each of these is realized. The large number of clients per supervisor, together with necessary office work, appears to be a heavy load, too heavy to permit much time to be given to guiding a client into more efficient methods of farming.[30] In some cases the amount of credit granted is small; the minimum needed to guarantee a certain standard of living rather than the amount which would provide the most efficient combination of resources for each operator. However, as mentioned previously, considerable efficiency has been achieved particularly in respect to livestock while the large turnover in capital suggests an emphasis on short-time enterprises and some shortage of capital.

The commercial farmer presents much the same kind of problem with the added complications of growing age, larger families and growing needs for foods, clothing, health and education, probably coupled with complacency or discouragement in a great many cases. More of these farmers are likely to be hindered primarily by poor techniques and limited vision than in the case of new farmers. Their needs measured objectively, by those outside, may be great but many of them will not consider their needs as very pressing and will put them off. Others are quite discouraged and are anxious for sudden tangible improvement. In either case the contact problem is likely to be more difficult and may at times require a trained sociologist or psychologist to understand the problems. Above all, time for interviews and imagination in planning is needed by the fieldmen. In a number of cases a psychological adjustment to a particular class and income has developed so that the operator will not seek out the FSA for help, or make use of the facilities available. Perhaps the FSA must seek out these individuals and stimulate their ambitions for themselves or their children; however, it is not likely to do so until active applicants become much scarcer in relation to loanable funds than at present and policies are changed, since the FSA does not now solicit loans.

[30] Several of the clients interviewed in this study felt the lack of contact with the supervisor of production.

EXTENSION SERVICE

One of the primary purposes of the extension program is to improve the practices followed by farmers and to assist them in making an efficient allocation of resources within the farm enterprise. Whatever the merit of the program, the patent fact is that direct contact of low-income farmers with the county agent or indirectly through other farmers is not sufficient. Even if they eventually adopt new techniques recommended by the extension service, they come third or fourth hand after nearly all the innovators' profits have been absorbed. Furthermore, the differences in the use of good farming practices show that this indirect adoption is a slow process. Contacts with bulletins, radio programs, farm journals and newspapers are much more frequent than with county agents, but serious questions arise regarding receptivity to information coming through these media. It may be that much different techniques are necessary to secure interest and that far greater efforts are needed to establish even equal contact with these lower-income groups. The shift must come not only in the higher administrative levels but among county agents and among the groups cooperating with them.[31]

WAR PROGRAM AND INCREASING DEMAND

Will the increase in employment and demand for agricultural products arising out of the war program improve the relative position of low-income farmers? The answer probably will be negative unless combined with a program for increasing efficiency and available resources to these farmers. Part-time farmers can improve their incomes by making more use of outside employment opportunities or by migrating to defense industries. Others, especially the younger operators, may do the same. The various kinds of and places for employment opportunities need to be brought to their attention so as to stimulate greater migration for these families. However, migration from farms is far less important in adjusting agriculture in Iowa than in the Southern states.

Those who remain in agriculture without making major changes in their agricultural operations will not improve their relative income position. The products which they emphasize slightly, butterfat and eggs, will probably show smaller price

[31] There seems to be a belief among some low-income farmers that the county agent has neither time nor sympathy for the low-income farmers and that he works primarily, if not entirely, for the benefit of County Farm Bureau members. On the other side of the picture, many low-income farmers do not see how the county agent could possibly be of any use to them and do not elicit his help or attend local meetings. Hence the county agent must ignore them or attempt to contact most of the 2000 farmers personally.

increase over 1939 levels than will beef cattle and hogs.[32] The machinery, equipment and buildings are somewhat poorer and will probably need considerable repairs each year to continue in use. These repairs and replacements as well as many other items will be purchased in competition with defense needs and perhaps out of rationed production; certainly through a system of priorities. The increases in costs will bring more complicated farm management problems, which are likely to increase the advantage of those already obtaining higher incomes. Net incomes of low-income farmers will probably increase, particularly if they are owners and can gain from the greater rigidity of interest rates as compared with rental rates, but higher-income farmers will also receive considerable increases in net incomes out of recent price rises. Hence, most low-income farmers will remain in about the same relative income position unless and until they, as individuals, are induced to use their resources more efficiently and have more resources available to them. Some farmers in fact will increase production only slightly if at all and will find their relative position worsened since they do not have much larger quantities to sell while other farmers do have substantial increases.

[32] Recent events make probability statements about agricultural price movements extremely hazardous. It is clear, however, that prices of all these products will be under pressure to move upwards.

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APPENDIX TABLES

TABLE I. DISTRIBUTION OF NET OPERATOR INCOME FROM ALL SOURCES BY TYPE OF FARMING AREAS. IOWA SAMPLE SURVEY FARMERS, 1939.

Net operator income in dollars	Number of Farms Surveyed						
	Northeast dairy	Cash grain	Western livestock	Southern pasture	Eastern livestock	State	Cumulated percent
-400 or less	1	3	4	1	3	12	1.6
-399- 0	3	6	6	10	10	35	6.3
0- 199	2	3	4	15	7	31	10.5
200- 399	19	12	15	21	16	83	21.7
400- 599	17	13	11	22	18	81	32.6
600- 799	21	18	17	12	14	82	43.7
800- 999	15	11	12	15	27	80	54.5
1000-1199	22	13	14	9	18	76	64.8
1200-1399	16	13	12	8	7	57	72.5
1400-1599	8	10	9	6	11	44	78.4
1600-1999	13	14	14	8	8	57	86.1
2000-2399	5	11	9	5	6	36	91.0
2400-2799	2	5	6	1	3	17	93.3
2800-3199	4	5	2	1	4	16	95.5
3200-3999	2	4	4	2	4	16	97.7
4000-4799	1	4	1	--	1	7	98.6
4800 and over	1	1	4	--	4	10	100.0
Total farmers	152	147	144	136	161	740	----

TABLE II. CROPPING PLAN, TOTAL ACRES AND CORN YIELD OF LOW-INCOME FARMERS BY TYPE OF FARMER. IOWA SAMPLE SURVEY FARMERS, 1939.

	Total acres percent	Acres in corn percent	Acres in other grain percent	Acres in hay percent	Crop acres percent	Average corn yield bu.
Single operator	116	15	6	18	48	40
Semi-retired	77	19	11	15	51	52
Part-time	71	20	11	13	58	43
Not classified	138	24	18	8	62	50
New farmers	132	22	16	14	60	45
Commercial farmers	131	23	16	12	61	47
All low-income farmers	117	23	15	12	59	47

TABLE III. DISTRIBUTION OF TOTAL CAPITAL MANAGED PER FARM BY INCOME GROUPS. IOWA SAMPLE SURVEY FARMERS, 1939.

Amount of capital in dollars	Number of Farms Surveyed				
	Class A	Class B	Class C	Class D	Total
0- 2499	--	1	--	12	13
2500- 4999	--	3	--	25	28
5000- 7499	2	16	--	32	50
7500- 9999	8	22	--	40	70
10000-12499	11	27	1	32	71
12500-14999	13	20	2	30	65
15000-17499	23	18	4	18	63
17500-19999	21	18	8	18	65
20000-22499	20	22	5	10	57
22500-24999	27	17	5	4	53
25000-27499	25	10	7	6	48
27500-29999	10	8	2	4	24
30000-32499	11	8	2	3	24
32500-34999	12	8	1	--	21
35000-37499	10	1	3	--	14
37500-39999	7	1	--	1	9
40000-42499	9	1	3	--	13
42500-44999	8	--	1	--	9
45000-47499	6	3	--	--	9
47500-49999	5	2	--	--	7
50000 and over	19	3	5	--	27
	247	209	49	235	740

TABLE IV. PERCENTAGE OF FARMERS OWNING AUTOMOBILES, TRUCKS AND TRACTORS, IN INCOME AND TENURE GROUPS. IOWA SAMPLE SURVEY FARMERS, 1939.

Tenure	Class A Percent	Class B Percent	Class C Percent	Class D Percent	Total Percent
Automobiles					
Owner	96	94	95	87	92
Tenant	98	91	93	90	93
All	97	92	94	89	93
Trucks					
Owners	24	7	25	8	14
Tenants	8	9	24	8	9
All	16	8	24	8	12
Tractors					
Owners	76	53	90	32	56
Tenants	83	64	90	47	66
All	79	59	90	40	62

TABLE V. NUMBER OF FARMERS WITH CHRONIC ILLNESS AND WITH BILLS OF SPECIFIED AMOUNTS, 1935 TO 1940, BY TYPE OF FARMER. IOWA LOW-INCOME FARMERS, 1940.*

	Commercial farmers	Semi-retired	Single operators	Part-time	New farmers	Total
Operator subject to chronic illness	8	3	3	1	1	16
Member of family has chronic illness or has medical bills over $150	22	6	1	1	3	33
Medical bills $50-$150	24	6	1	3	7	41
Medical bills $25-$50	5	2	1	1	5	14
No chronic illness nor medical bills of over $25	42	9	9	8	11	79
Total reporting	101	26	15	14	27	183

* Includes only farmers with chronic ailments or single bills of $25 or more in the last 5 years. Bills are for the 5-year period.

TABLE VI. EXTENT OF CONTACTS OF LOW-INCOME FARMERS WITH VARIOUS MEDIA OF COMMUNICATION, IN PERCENTAGES OF THOSE REPORTING. IOWA LOW-INCOME FARMERS, 1940.

	No contact	Contact infrequently	Three or more contacts per year	No answer*
County agent				
No.	140	23	15	5
%	79	13	8	--
Farm Journal	None taken	One taken	Two or more taken	
No.	8	37	116	42
%	5	23	72	--
Magazines				
No.	9	49	63	82
%	7	41	52	--
Newspapers				
No.	5	131†	22	45
%	3	83	14	--
Listen to news broadcasts	No	Yes		
No.	34	137	--	32
%	20	80	--	--
Listen to agr. inf. broadcasts				
No.	64	108	--	31
%	37	63	--	--
Obtain I.S.C. publications				
No.	116	36	--	51
%	76	24	--	--
Obtain U.S.D.A. publications				
No.	107	56	--	40
%	66	34	--	--

* About 25 farmers did not answer any of these questions; the remainder of those not answering were due to refusal or oversight. In some cases the answer may be none, though this could not be determined from the schedule.

† Some of these also take a weekly newspaper.